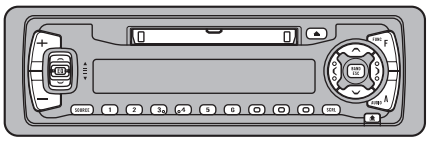
Service Manual

Pioneer

MEH-P5100R/EW



ORDER NO.
CRT2445

MULTI-CD/MD CONTROL HIGH POWER MD PLAYER WITH RDS TUNER

MEH-P5100R EW

MULTI-CD/MD CONTROL HIGH POWER MD PLAYER WITH FM/AM TUNER

MEH-P5150 ES

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-683	CRT2441	MD-4	MD Mech. Module:Circuit Description, Mech.Description, Disassembly

● **US and foreign patents licensed from Dolby Laboratories Licensing Corporation.**

CONTENTS

1. SAFETY INFORMATION 2
2. EXPLODED VIEWS AND PARTS LIST 3
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM ...12
4. PCB CONNECTION DIAGRAM 42
5. ELECTRICAL PARTS LIST 54
6. ADJUSTMENT.....65
7. GENERAL INFORMATION 68
   7.1 DIAGNOSIS 68
      7.1.1 TEST MODE 68
      7.1.2 DISASSEMBLY 72
   7.2 PARTS 74
      7.2.1 IC.....74
      7.2.2 DISPLAY 83
   7.3 OPERATIONAL FLOW CHART 85
8. OPERATIONS AND SPECIFICATIONS.....86

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1. SAFETY INFORMATION

1.1 MEH-P5100R/EW, P5150/ES

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

1.2 MEH-P5100R/EW

1. Safety Precautions for those who Service this Unit.

- **When checking or adjusting the emitting power of the laser diode exercise caution in order to get safe, reliable results.**

Caution:

1. During repair or tests, minimum distance of 13cm from the focus lens must be kept.
2. During repair or tests, do not view laser beam for 10 seconds or longer.

2. A "CLASS 1 LASER PRODUCT" label is affixed to the bottom of the player.

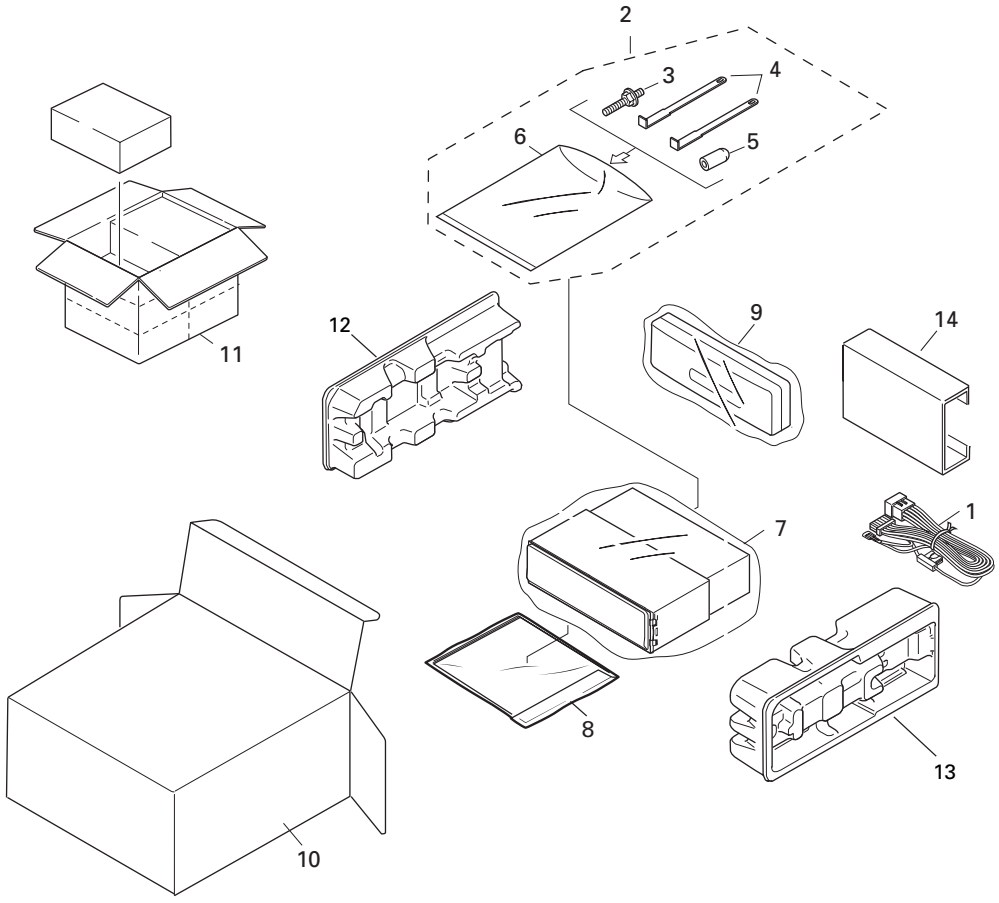
3. The triangular label is attached to the mechanism module frame.

4. Specifications of Laser Diode

Specifications of laser radiation fields to which human access is possible during service.
Wavelength = 800 nanometers

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING(MEH-P5100R/EW)



NOTE:

- Parts marked by "*" are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

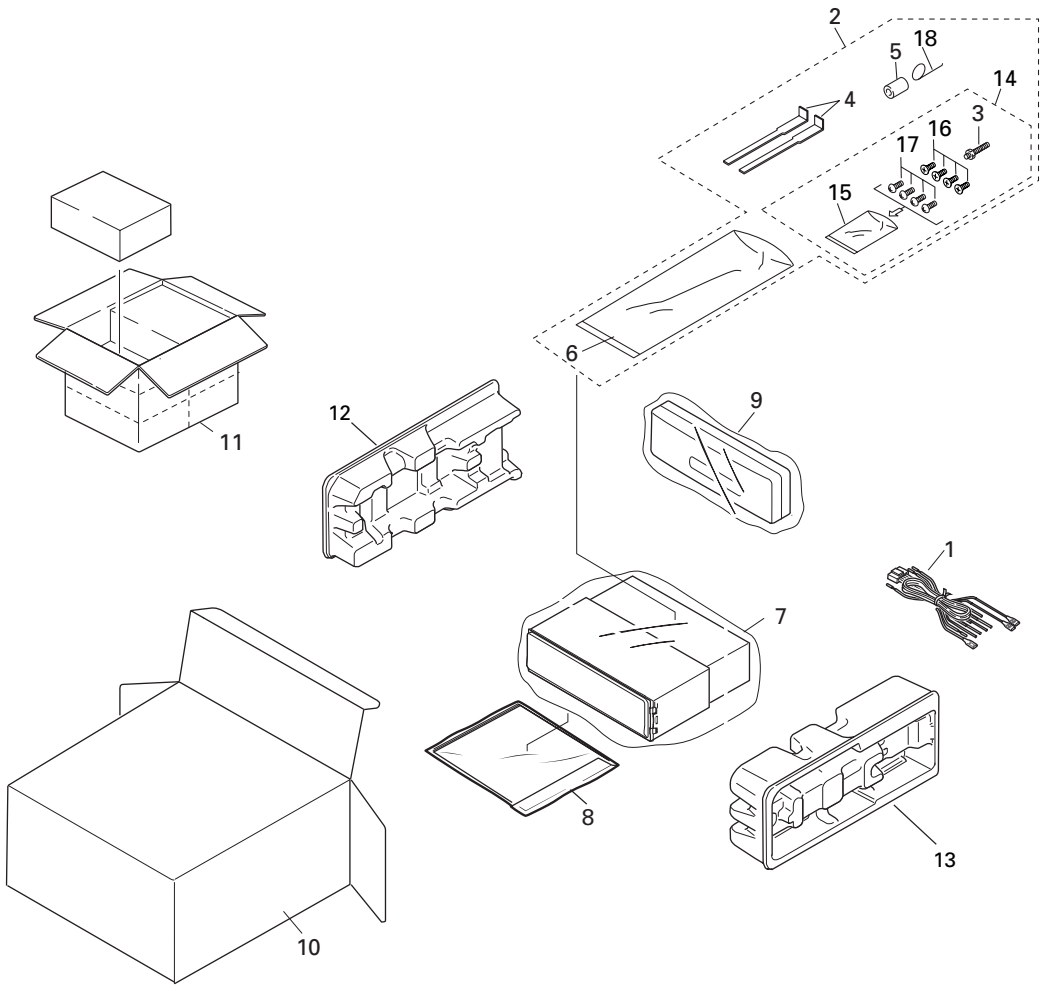
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Cord Assy	CDE6263
	2	Accessory Assy	CEA1917
	3	Screw	CBA1284
	4	Handle	CNC5395
	5	Bush	CNV1009
*	6	Polyethylene Bag	E36-615
	7	Polyethylene Bag	CEG-162
	8-1	Owner's Manual	CRD3196
	8-2	Owner's Manual	CRD3200
	8-3	Owner's Manual	CRD3201
	8-4	Installation Manual	CRD3197
*	8-5	Passport	CRY1013
*	8-6	Warranty Card	CRY1157
	8-7	Polyethylene Bag	CEG1116
	9	Case Assy	CXB3520
	10	Carton	CHG4017
	11	Contain Box	CHL4017
	12	Protector	CHP2101
	13	Protector	CHP2102
	14	Inner Box	CHW1754

● Owner's Manual, Installation Manual

Model	Part No.	Language
MEH-P5100R/EW	CRD3196	English, Spanish
	CRD3200	German, French
	CRD3201	Italian, Dutch
	CRD3197	English, Spanish, German, French, Italian, Dutch

2.2 PACKING(MEH-P5150/ES)



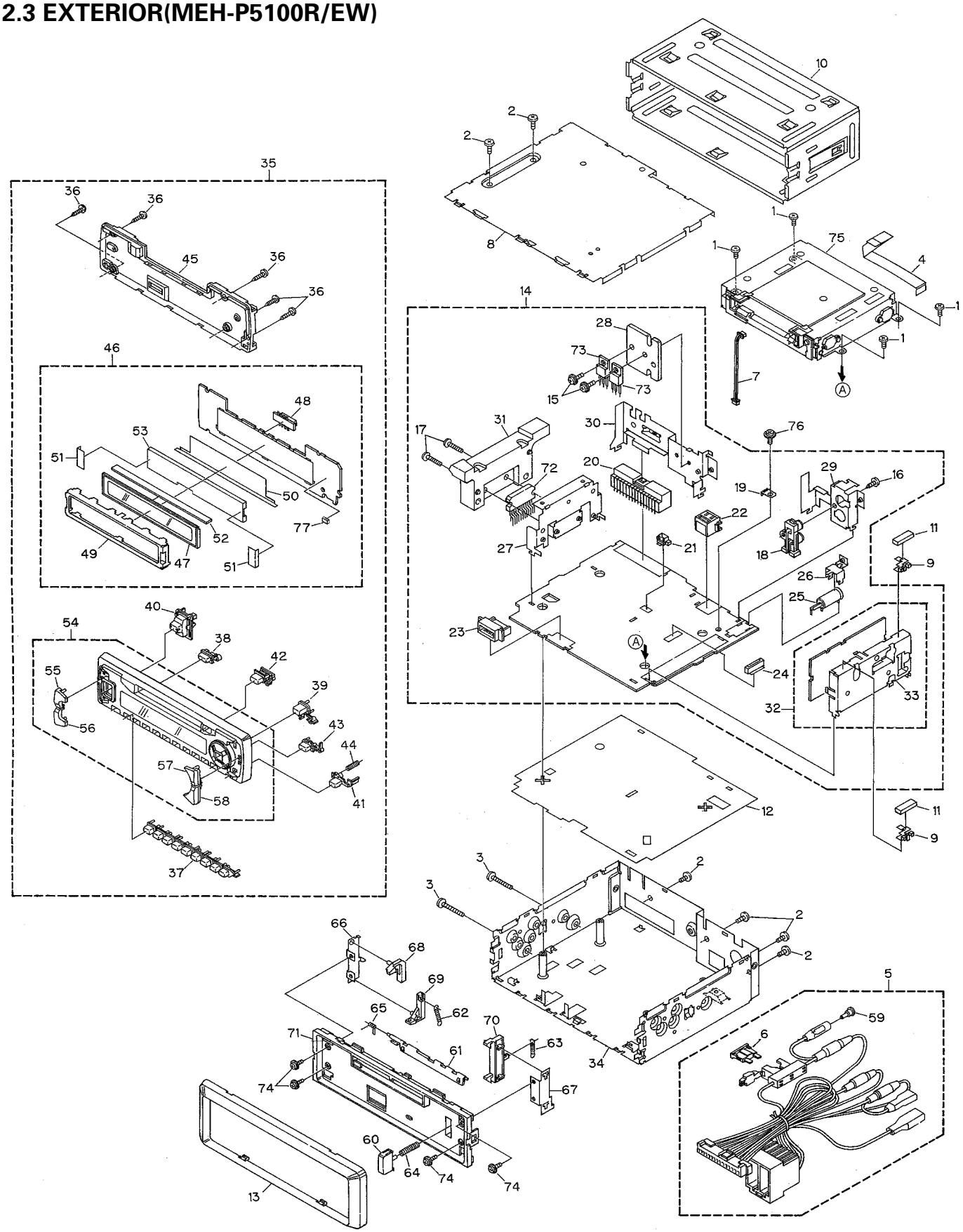
● PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Cord Assy	CDE6120
	2	Accessory Assy	CEA2002
	3	Screw	CBA1284
	4	Handle	CNC5395
	5	Bush	CNV1009
*	6	Polyethylene Bag	CEG-158
	7	Polyethylene Bag	CEG-162
	8-1	Owner's Manual	CRD3198
	8-1	Owner's Manual	CRD3202
	8-2	Installation Manual	CRD3199
	8-3	Polyethylene Bag	CEG1116
	9	Case Assy	CXB3520
	10	Carton	CHG4018
	11	Contain Box	CHL4018
	12	Protector	CHP2101
	13	Protector	CHP2102
	14	Screw Assy	CEA2003
*	15	Polyethylene Bag	CEG-127
	16	Screw	CRZ50P090FMC
	17	Screw	TRZ50P080FMC
	18	Spring	CBH-865

● Owner's Manual, Installation Manual

Model	Part No.	Language
MEH-P5150/ES	CRD3198	English, Spanish
	CRD3202	Portuguese(B), Arabic
	CRD3199	English, Spanish, Portuguese(B), Arabic

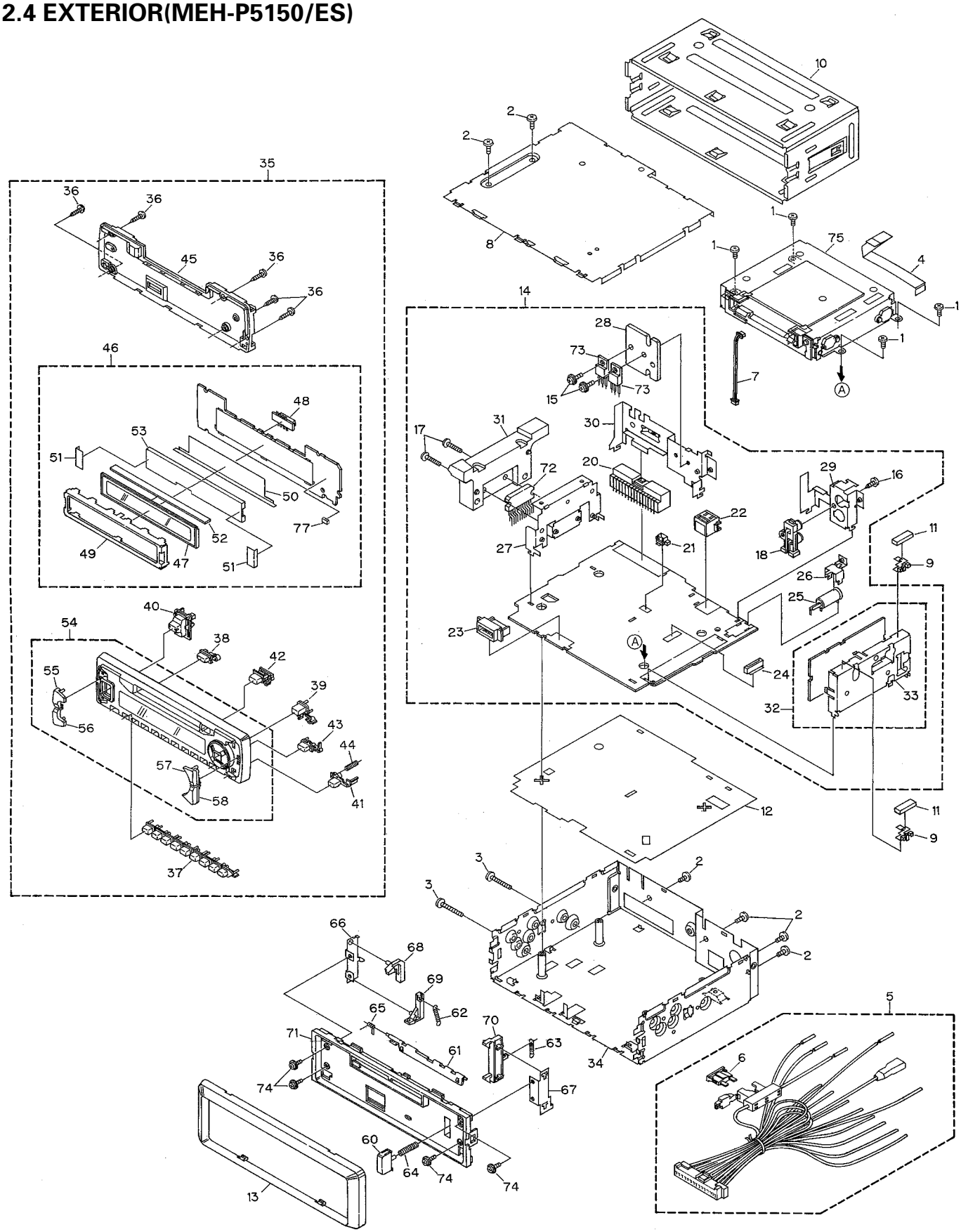
2.3 EXTERIOR(MEH-P5100R/EW)



● EXTERIOR SECTION PARTS LIST

Mark No.	Description	Part No.
1	Screw	BSZ26P050FMC
2	Screw	BSZ30P060FMC
3	Screw	BSZ30P200FMC
4	Cable	CDE6219
5	Cord Assy	CDE6263
6	Fuse(10A)	CEK1136
7	Cord Assy	CDE6320
8	Case	CNB2495
9	Holder	CNC5704
10	Holder	CNC8659
11	Cushion	CNM4870
12	Insulator	CNM6637
13	Panel	CNS5097
14	Tuner Amp Unit	CWM6923
15	Screw	ASZ26P100FMC
16	Screw	BPZ26P080FMC
17	Screw	BSZ26P160FMC
18	Pin Jack(CN452)	CKB1028
19	Terminal(CN904)	CKF1059
20	Plug(CN905)	CKM1231
21	Connector(CN202)	CKS3124
22	Connector(CN902)	CKS3408
23	Connector(CN903)	CKS3581
24	Connector(CN201)	CKS4204
25	Antenna Jack(CN451)	CKX1056
26	Holder	CNC4569
27	Holder	CNC6361
28	Heat Sink	CNC7369
29	Holder	CNC7370
30	Holder	CNC7968
31	Heat Sink	CNR1419
32	FM/AM Tuner Unit	CWE1500
33	Holder	CNC7532
34	Chassis Unit	CXB5216
35	Detach Grille Assy	CXB5410
36	Screw	BPZ20P080FZK
37	Button(1-6)	CAC6239
38	Button(SOURCE)	CAC6241
39	Button(BAND)	CAC6249
40	Button(EQ)	CAC6500
41	Button(DETACH)	CAC6506
42	Button(EJECT)	CAC6508
43	Button(SCRL)	CAC6510
44	Spring	CBH2343
45	Cover	CNS5857
46	Keyboard Unit	CWM6929
47	LCD(LCD901)	CAW1589
48	Connector(CN901)	CKS3580
49	Holder	CNC8695
50	Sheet	CNM6634
51	Spacer	CNM6741
52	Connector	CNV6127
53	Lighting Conductor	CNV6128
54	Grille Unit(-A)	CXB5967
55	Button(+)	CAC6496
56	Button(-)	CAC6498
57	Button(F)	CAC6502
58	Button(A)	CAC6504
59	Terminal Cover	CKX-003
60	Button	CAC5180
61	Door	CAT1983
62	Spring	CBH1834
63	Spring	CBH1835
64	Spring	CBH1996
65	Spring	CBH2329
66	Bracket	CNC6135
67	Bracket	CNC6791
68	Arm	CNV4692
69	Arm	CNV4693
70	Arm	CNV4951
71	Panel Unit	CXB5679
72	IC(IC301)	PAL005A
73	Transistor(Q201,953)	2SD2396
74	Screw	IMS20P030FZK
75	MD Mechanism Module(MD-4)	CXK3110
76	Screw	ISS26P055FUC
77	Cushion	CNM6882

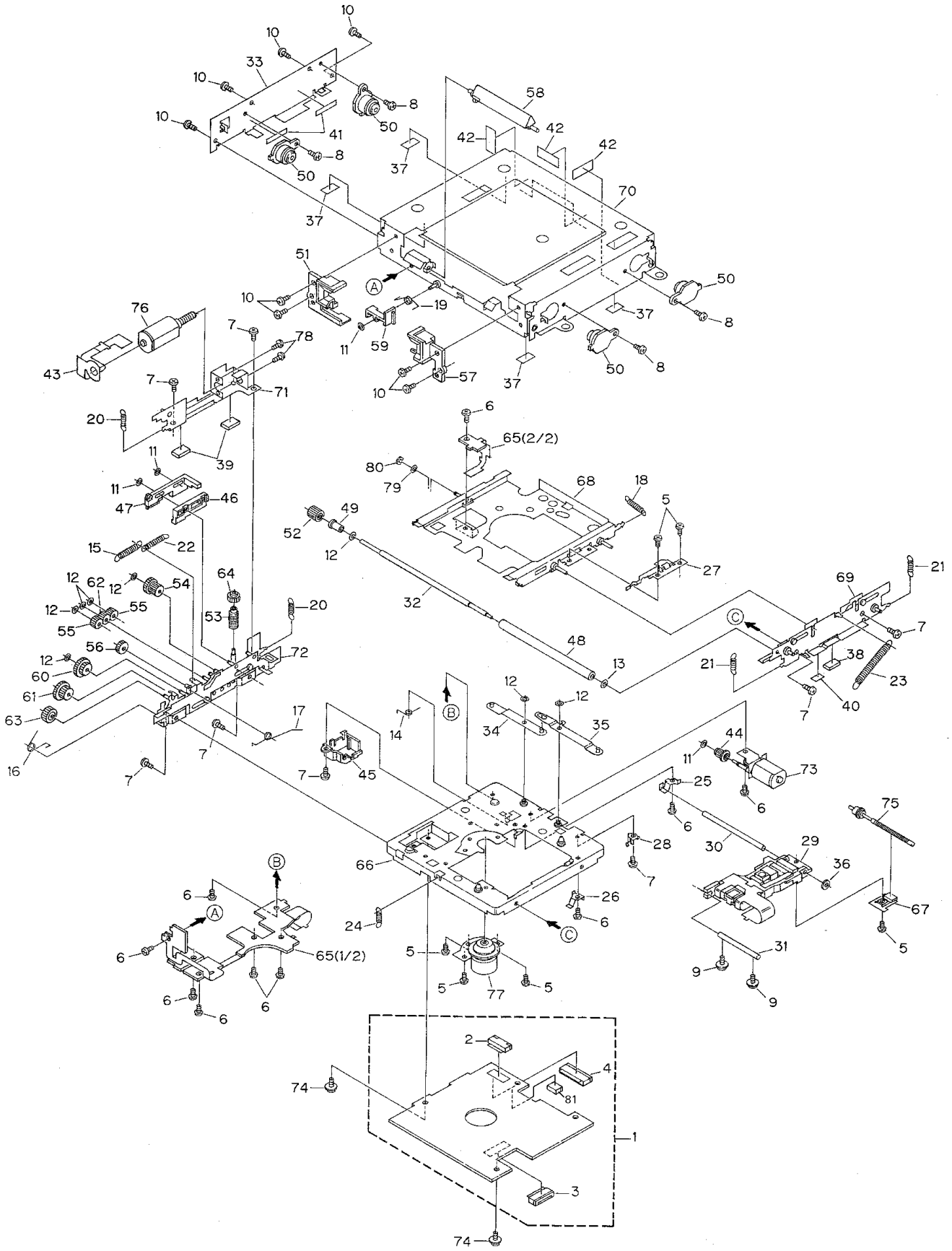
2.4 EXTERIOR(MEH-P5150/ES)



● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	BSZ26P050FMC
	2	Screw	BSZ30P060FMC
	3	Screw	BSZ30P200FMC
	4	Cable	CDE6219
	5	Cord Assy	CDE6120
	6	Fuse(10A)	CEK1136
	7	Cord Assy	CDE6320
	8	Case	CNB2495
	9	Holder	CNC5704
	10	Holder	CNC8659
	11	Cushion	CNM4870
	12	Insulator	CNM6637
	13	Panel	CNS5097
	14	Tuner Amp Unit	CWM6924
	15	Screw	ASZ26P100FMC
	16	Screw	BPZ26P080FMC
	17	Screw	BSZ26P160FMC
	18	Pin Jack(CN452)	CKB1028
	19	•••••	
	20	Plug(CN905)	CKM1231
	21	Connector(CN202)	CKS3124
	22	Connector(CN902)	CKS3408
	23	Connector(CN903)	CKS3581
	24	Connector(CN201)	CKS4204
	25	Antenna Jack(CN451)	CKX1056
	26	Holder	CNC4569
	27	Holder	CNC6361
	28	Heat Sink	CNC7369
	29	Holder	CNC7370
	30	Holder	CNC7968
	31	Heat Sink	CNR1419
	32	FM/AM Tuner Unit	CWE1501
	33	Holder	CNC7532
	34	Chassis Unit	CXB5217
	35	Detach Grille Assy	CXB5411
	36	Screw	BPZ20P080FZK
	37	Button(1-6)	CAC6239
	38	Button(SOURCE)	CAC6241
	39	Button(BAND)	CAC6249
	40	Button(EQ)	CAC6500
	41	Button(DETACH)	CAC6506
	42	Button(EJECT)	CAC6508
	43	Button(SCRL)	CAC6510
	44	Spring	CBH2343
	45	Cover	CNS5857
	46	Keyboard Unit	CWM6930
	47	LCD(LCD901)	CAW1590
	48	Connector(CN901)	CKS3580
	49	Holder	CNC8695
	50	Sheet	CNM6634
	51	Spacer	CNM6741
	52	Connector	CNV6127
	53	Lighting Conductor	CNV6128
	54	Grille Unit(-A)	CXB5968
	55	Button(+)	CAC6496
	56	Button(-)	CAC6498
	57	Button(F)	CAC6502
	58	Button(A)	CAC6504
	59	•••••	
	60	Button	CAC5180
	61	Door	CAT1983
	62	Spring	CBH1834
	63	Spring	CBH1835
	64	Spring	CBH1996
	65	Spring	CBH2329
	66	Bracket	CNC6135
	67	Bracket	CNC6791
	68	Arm	CNV4692
	69	Arm	CNV4693
	70	Arm	CNV4951
	71	Panel Unit	CXB5679
	72	IC(IC301)	PAL005A
	73	Transistor(Q201,953)	2SD2396
	74	Screw	IMS20P030FZK
	75	MD Mechanism Module(MD-4)	CXK3110
	76	•••••	
	77	Cushion	CNM6882

2.5 MD MECHANISM MODULE

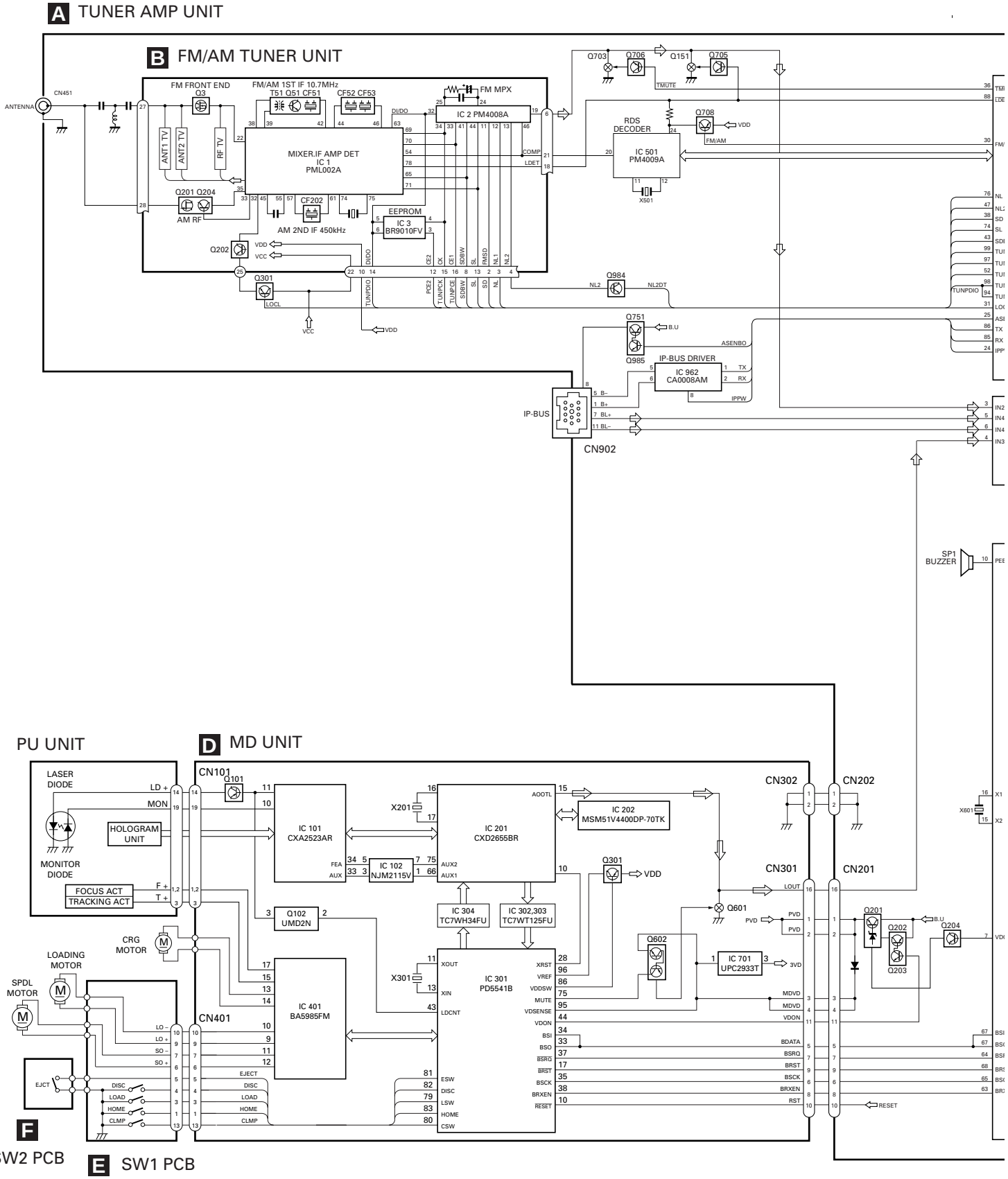


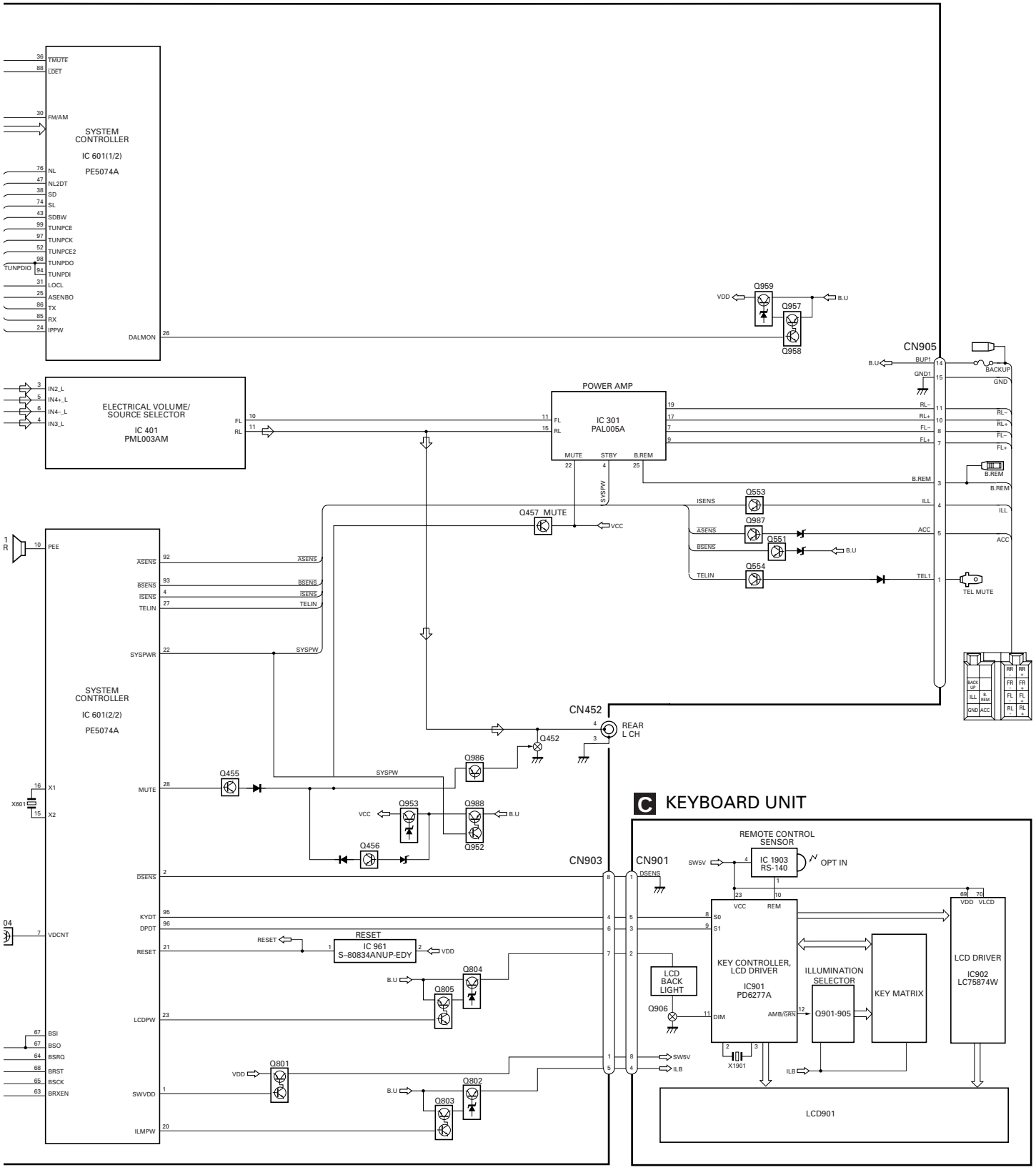
● EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MD Unit(MD-4)	CWX2438
	2	Connector(CN401)	CKS4055
	3	Connector(CN101)	CKS4056
	4	Connector(CN301)	CKS4060
	5	Screw(M1.4x1.8)	CBA1503
	6	Screw(M1.7x1.6)	CBA1504
	7	Screw(M2x2)	CBA1505
	8	Screw	CBA1506
	9	Screw(M2x5)	CBA1507
	10	Screw(M2x2.5)	CBA1508
	11	Washer	CBF1037
	12	Washer	CBF1038
	13	Washer	CBF1039
	14	Spring	CBH2213
	15	Spring	CBH2214
	16	Spring	CBH2243
	17	Spring	CBH2216
	18	Spring	CBH2217
	19	Spring	CBH2218
	20	Spring	CBH2219
	21	Spring	CBH2220
	22	Spring	CBH2244
	23	Spring	CBH2245
	24	Spring	CBH2289
	25	Spring	CBL1405
	26	Spring	CBL1406
	27	Spring	CBL1408
	28	Spring	CBL1423
	29	PU Unit	CGY3000
	30	Shaft	CLA3489
	31	Shaft	CLA3490
	32	Shaft	CLA3491
	33	Bracket	CNC8082
	34	Arm	CNC8269
	35	Arm	CNC8270
	36	Cushion	CNM6301
	37	Sheet	CNM6323
	38	Sheet	CNM6324
*	39	Sheet	CNM6653
	40	Sheet	CNM6726
	41	Sheet	CNM6727
	42	Sheet	CNM6728
	43	PCB	CNP5335
	44	Gear	CNV5616
	45	Holder	CNV5623
	46	Rack	CNV5624
	47	Rack	CNV5625
	48	Roller	CNV5626
	49	Collar	CNV5627
	50	Damper	CNV5629
	51	Guide	CNV5630
	52	Gear	CNV5631
	53	Gear	CNV5633
	54	Gear	CNV5634
	55	Gear	CNV5635
	56	Gear	CNV5636
	57	Guide	CNV5746
	58	Lever	CNV5747
	59	Lever	CNV5748
	60	Gear	CNV5834
	61	Gear	CNV5837
	62	Gear	CNV5838
	63	Gear	CNV5839
	64	Gear	CNV5913
	65	Composite PCB	CNX3127
	66	Chassis Unit	CXB4399
	67	Spring Unit	CXB4047
	68	Holder Unit	CXB4048
	69	Bracket Unit	CXB4049
	70	Frame Unit	CXB4401
	71	Bracket Unit	CXB4051
	72	Bracket Unit	CXB4052
	73	Motor Unit(-C)(CRG)(M1)	CXB4054
	74	Screw	IMS20P025FMC
	75	Screw Unit(-C)	CXB4055
	76	Motor Unit(-B)(Loading)(M2)	CXB4181
	77	Motor(SPDL)(M3)	CXM1158
	78	Screw	JGZ14P018FZK
	79	Washer	WB16FMC
	80	Washer	YE12FUC
	81	Connector(CN302)	CKS2191

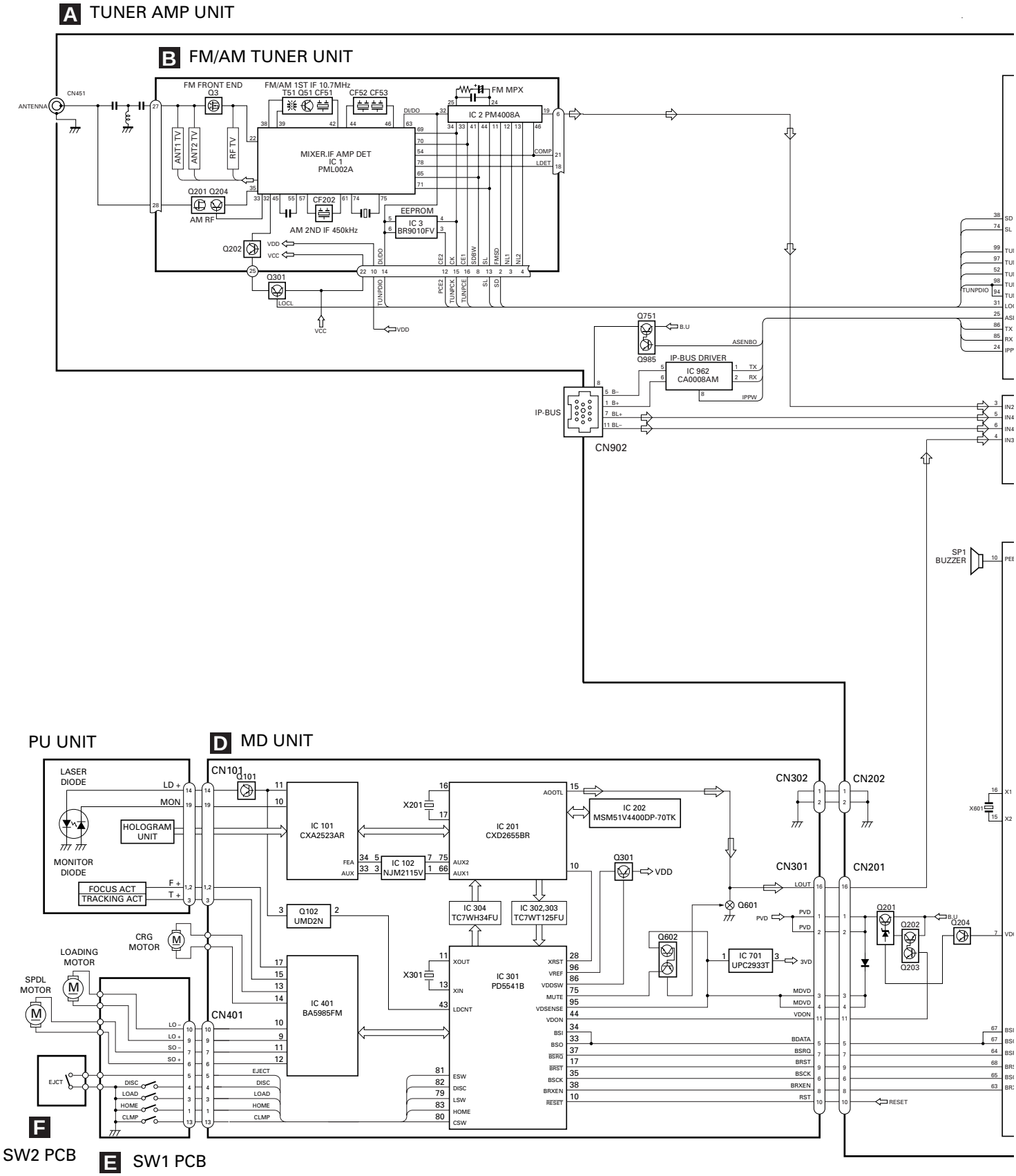
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

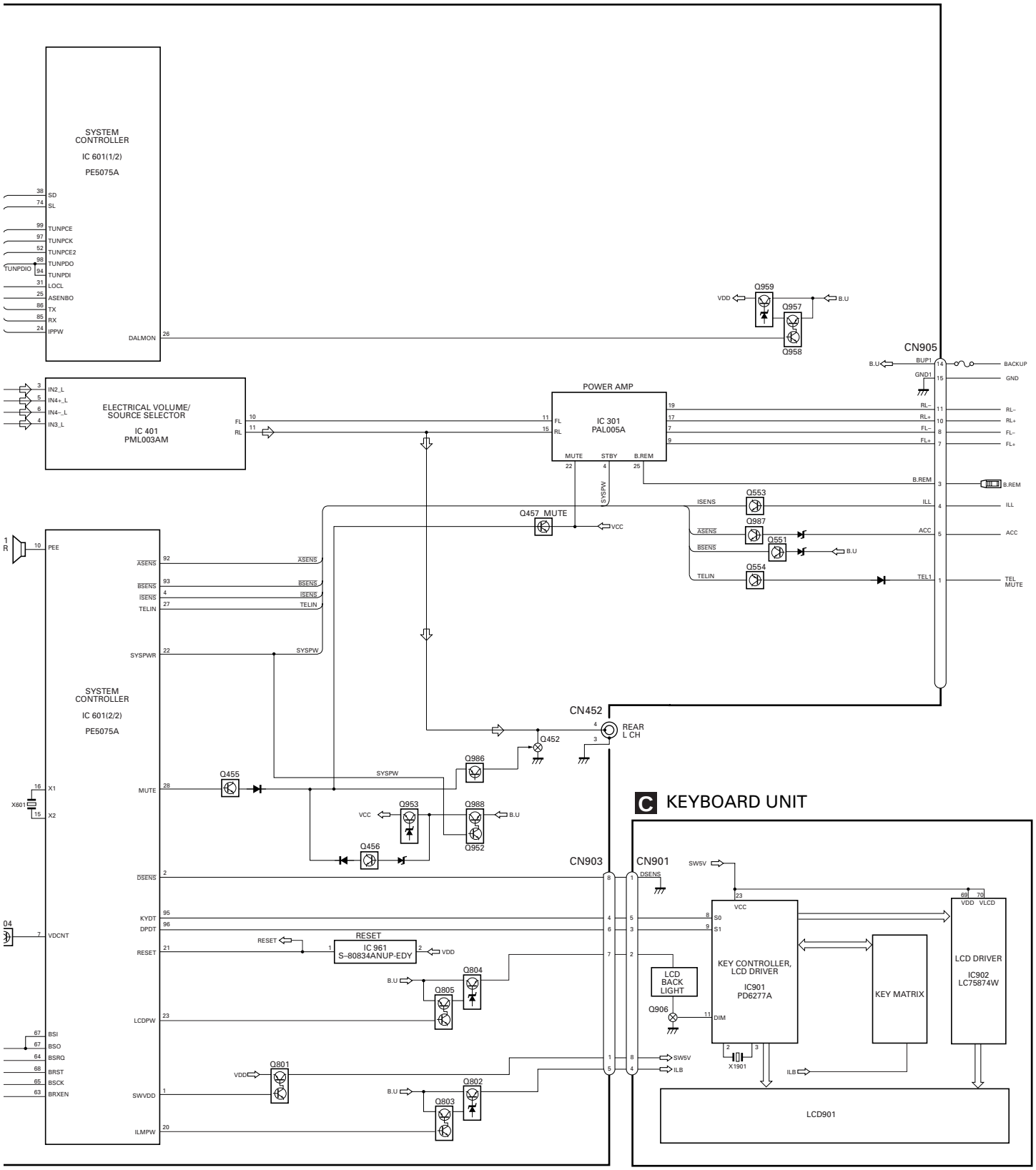
3.1 BLOCK DIAGRAM(MEH-P5100R/EW)




SYSTEM CONTROLLER
IC 601(1/2)
PE5074A
TMUTE
LDET
FM/AM
NL
NL2DT
SD
SL
SDBW
TUNPCE
TUNPCK
TUNPCE2
TUNPDO
TUNPDI
LOCL
ASENBO
TX
RX
IPPW
DALMON
TUNPDIO
ELECTRICAL VOLUME/ SOURCE SELECTOR
IC 401
PML003AM
IN2_L
IN4+_L
IN4-_L
IN3_L
FL
RL
POWER AMP
IC 301
PAL005A
MUTE
STBY
B.REM
SYSPW
Q457 MUTE
VCC
Q959
Q957
Q958
VDD
B.U
CN905
BUP1
GND1
BACKUP
GND
RL-
RL+
FL-
FL+
B.REM
ILL
ACC
TEL1
TEL MUTE
Q553
Q987
Q551
Q554
ISENS
ASENS
BSENS
TELIN
SYSTEM CONTROLLER
IC 601(2/2)
PE5074A
PEE
SYSPWR
MUTE
X1
X2
X601
VDCNT
DSENS
KYDT
DPDT
RESET
LCDPW
BSI
BSO
BSRQ
BRST
BSCK
BRXEN
SWVDD
ILMPW
CN452
REAR L CH
Q452
Q455
Q456
Q986
Q953
Q988
Q952
CN903
CN901
Q801
Q802
Q803
Q804
Q805
IC 961
S-80834ANUP-EDY
C KEYBOARD UNIT
REMOTE CONTROL SENSOR
IC 1903
RS-140
OPT IN
SW5V
KEY CONTROLLER, LCD DRIVER
IC901
PD6277A
LCD BACK LIGHT
Q906
DIM
ILLUMINATION SELECTOR
Q901-905
AMB/GRN
KEY MATRIX
LCD DRIVER
IC902
LC75874W
X1901
ILB
LCD901

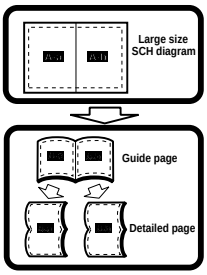
3.2 BLOCK DIAGRAM(MEH-P5150/ES)




SYSTEM CONTROLLER
IC 601(1/2)
PE5075A
SD
SL
TUNPCE
TUNPCK
TUNPCE2
TUNPDO
TUNPDIO
TUNPDI
LOCL
ASENBO
TX
RX
IPPW
DALMON
Q959
Q957
Q958
VDD
B.U
CN905
BUP1
GND1
BACKUP
GND
RL–
RL+
FL–
FL+
B.REM
ILL
ACC
TEL MUTE
ELECTRICAL VOLUME/ SOURCE SELECTOR
IC 401
PML003AM
IN2_L
IN4+_L
IN4–_L
IN3_L
FL
RL
POWER AMP
IC 301
PAL005A
MUTE
STBY
B.REM
SYSPW
Q457 MUTE
VCC
Q553
Q987
Q551
Q554
ISENS
ASENS
BSENS
TELIN
TEL1
SYSTEM CONTROLLER
IC 601(2/2)
PE5075A
PEE
ASENS
BSENS
ISENS
TELIN
SYSPWR
CN452
REAR L CH
Q452
Q986
Q455
Q953
Q988
Q456
Q952
X601
X1
X2
MUTE
SYSPW
VCC
B.U
CN903
CN901
DSENS
SW5V
KEYDT
DPDT
VDCNT
RESET
IC 961
S–80834ANUP-EDY
VDD
Q804
Q805
LCDPW
BSI
BSO
BSRQ
BRST
BSCK
BRXEN
SWVDD
ILMPW
Q801
Q802
Q803
ILB
C KEYBOARD UNIT
KEY CONTROLLER, LCD DRIVER
IC901
PD6277A
LCD BACK LIGHT
Q906
DIM
X1901
KEY MATRIX
LCD DRIVER
IC902
LC75874W
VLCD
LCD901

3.3 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)(MEH-P510R/EW)

Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "ELECTRICAL PARTS LIST".



A-a

A TUNER AMP UNIT

B FM/AM TUNER UNIT

D CN301

D CN302

IP BUS

IP BUS(MD 1kHz 0dB):+2.2dBs

MD(CD 1kHz 0dB):-0.97dBs

FM(100%):-15.5dBs
AM (30%):-26.0dBs

VD REGULATOR

IP-BUS DRIVER
IC962

ANTENNA JACK
CN451

RDS DECODER

IC601
PE5074A
SYSTEM CONTROLLER

REMOTE CONTROL SENSER

LCD DRIVER
IC902
LC75874W

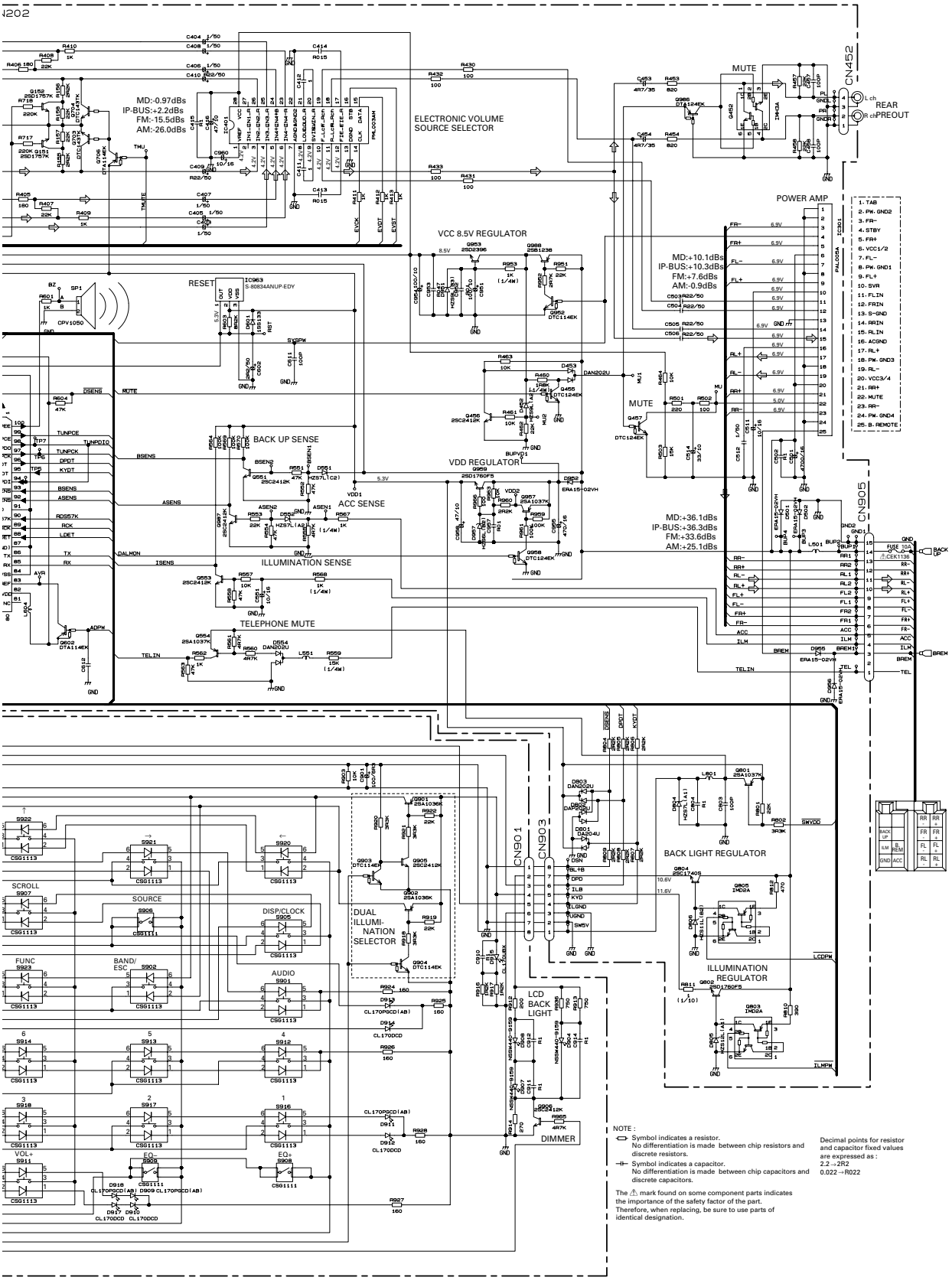
DISPLAY AND KEY CONTROLLER
IC901
PD6277A

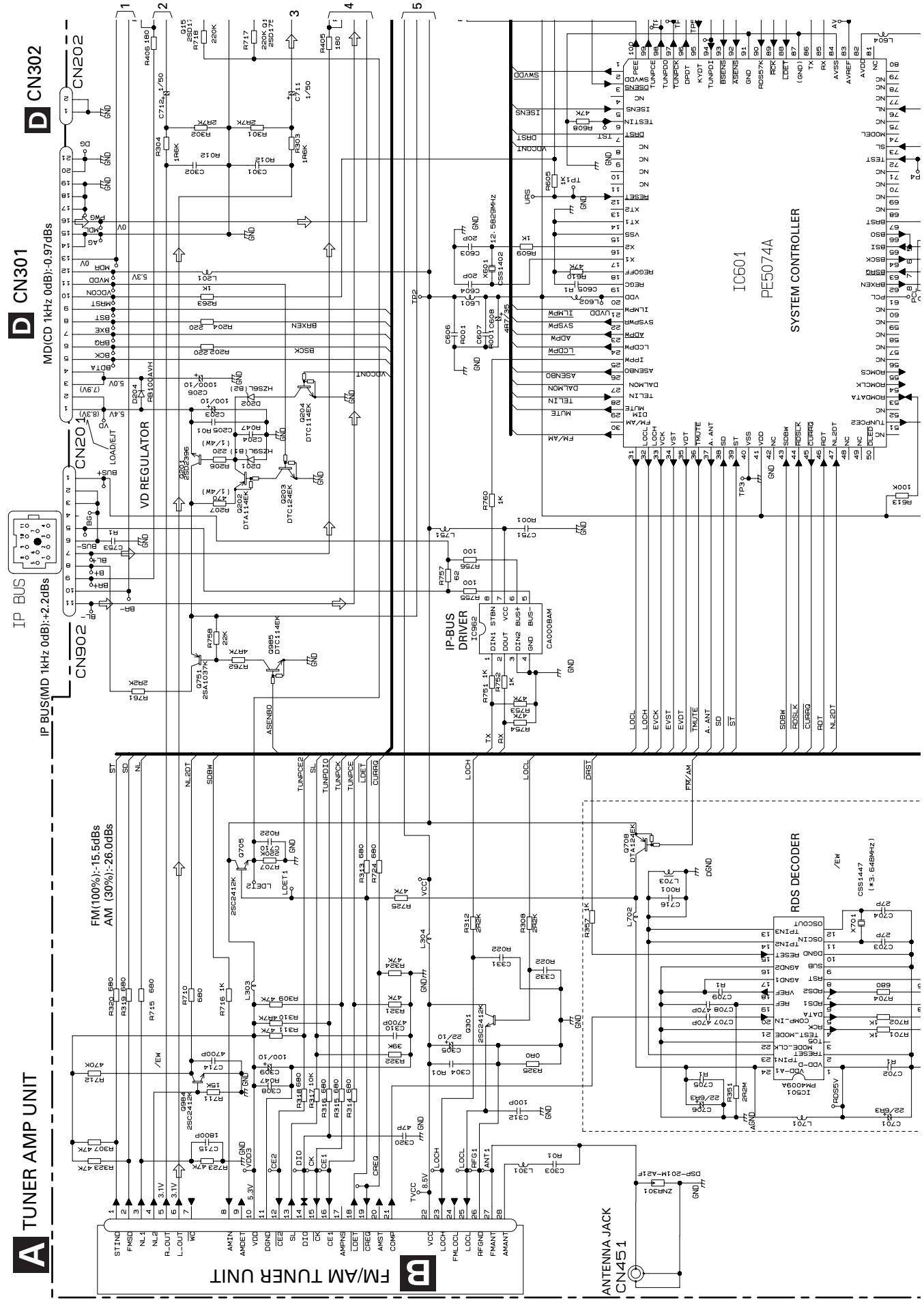
CAW1589
LCD901

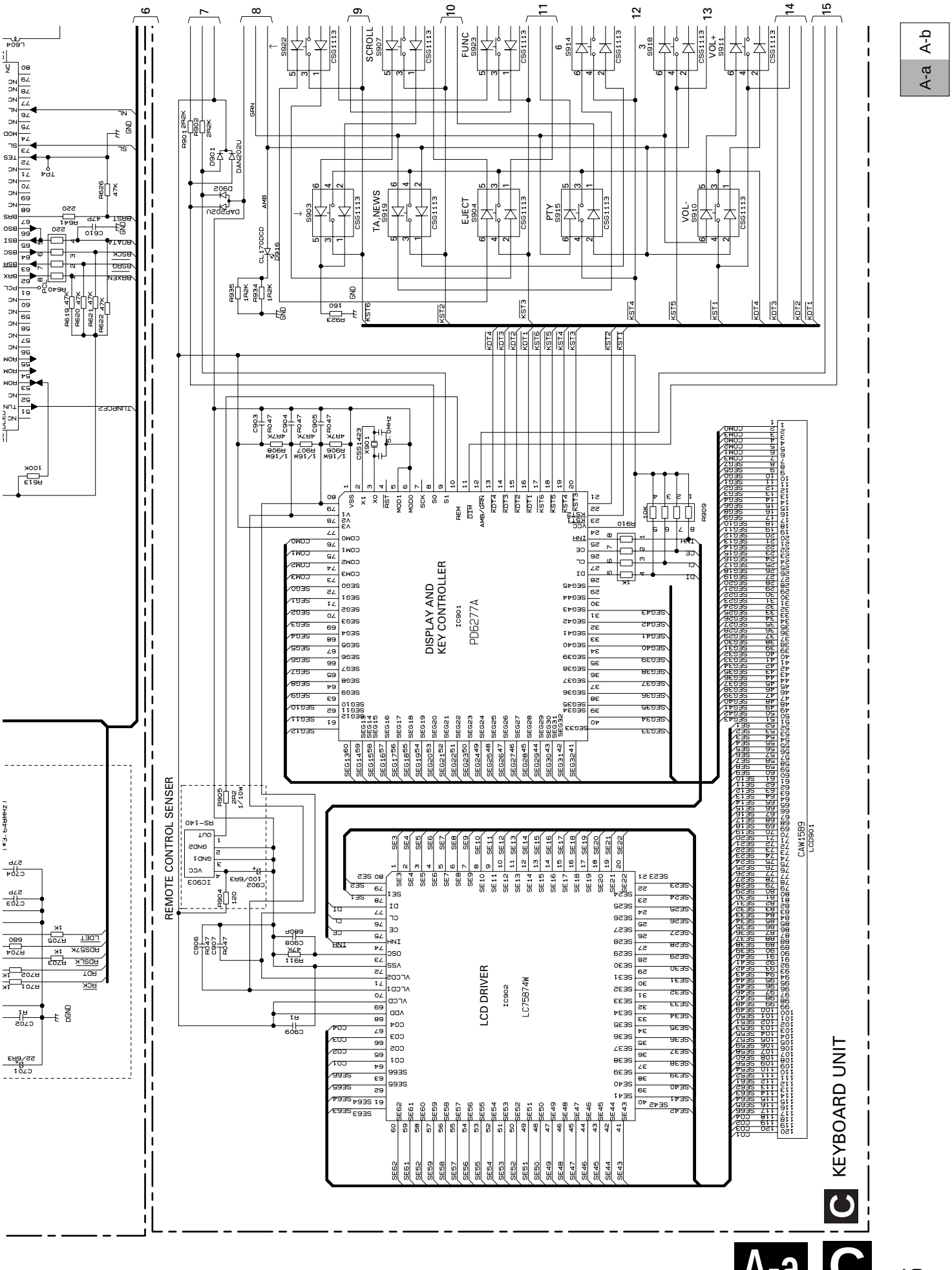
C KEYBOARD UNIT

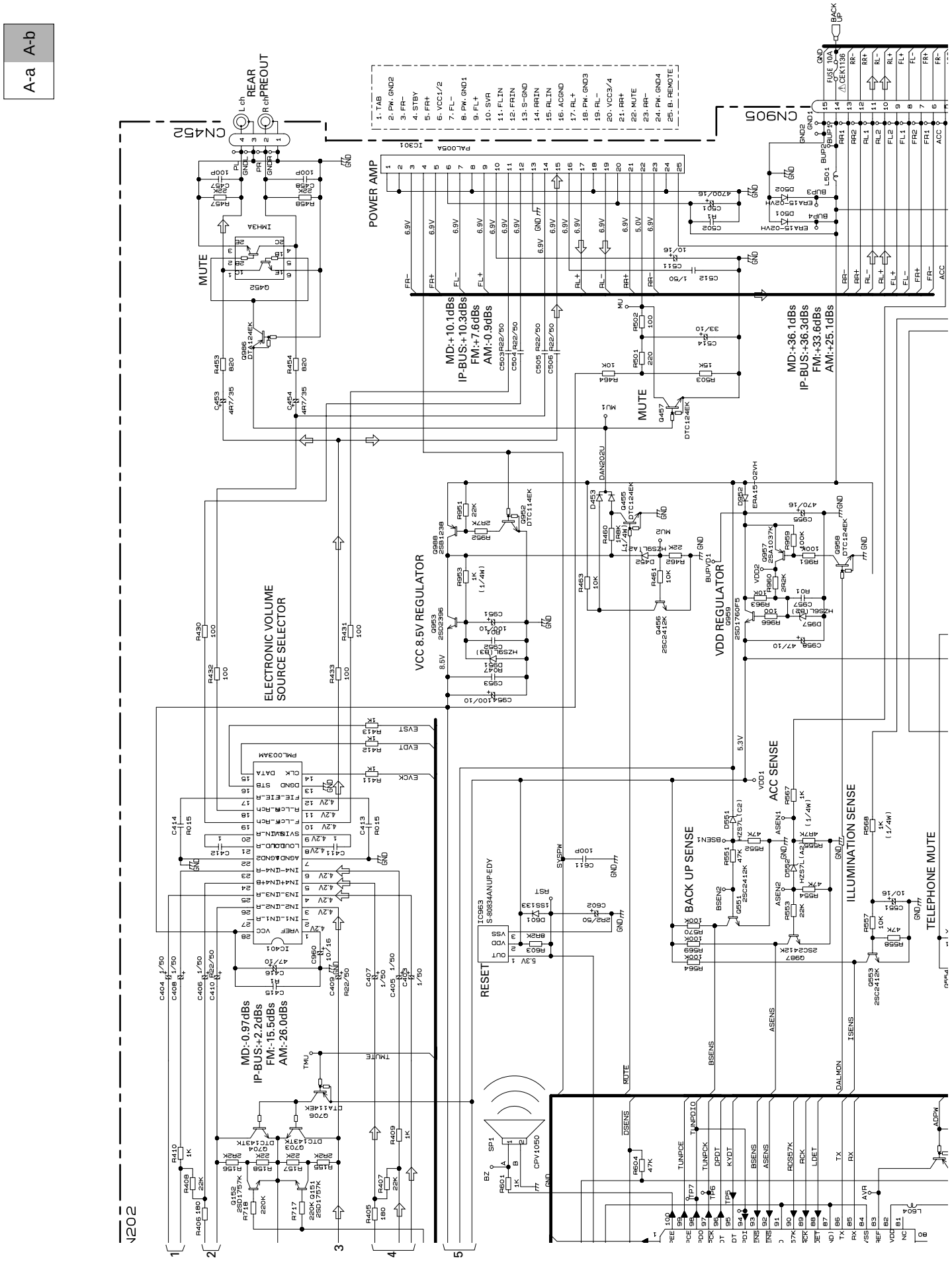
A C

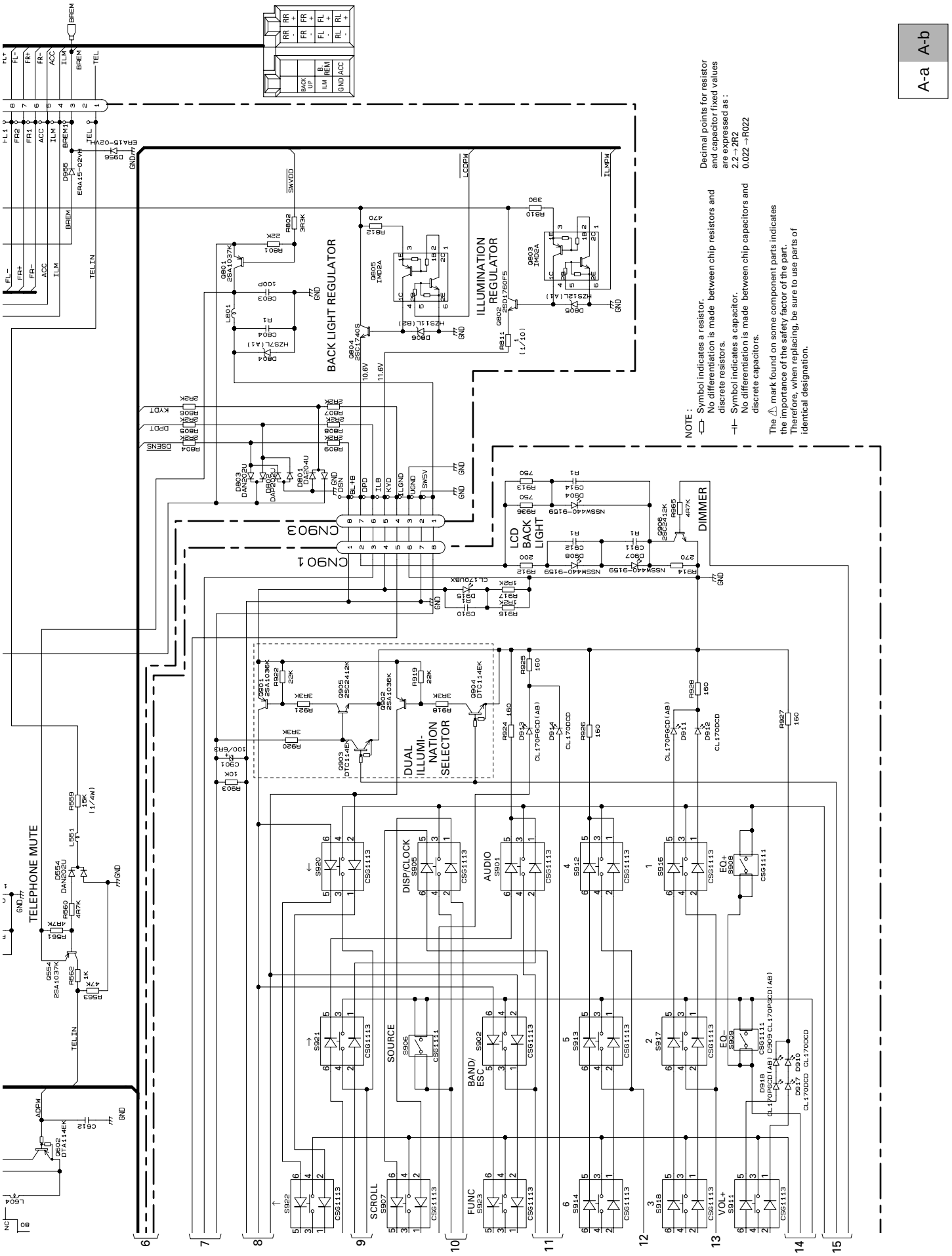
A-b


MD:-0.97dBs
IP-BUS:+2.2dBs
FM:-15.5dBs
AM:-26.0dBs
ELECTRONIC VOLUME SOURCE SELECTOR
MUTE
REAR PREOUT
POWER AMP
VCC 8.5V REGULATOR
MD:+10.1dBs
IP-BUS:+10.3dBs
FM:+7.6dBs
AM:-0.9dBs
RESET
BACK UP SENSE
VDD REGULATOR
ACC SENSE
MD:+36.1dBs
IP-BUS:+36.3dBs
FM:+33.6dBs
AM:+25.1dBs
ILLUMINATION SENSE
TELEPHONE MUTE
DUAL ILLUMI-NATION SELECTOR
BACK LIGHT REGULATOR
ILLUMINATION REGULATOR
LCD BACK LIGHT
DIMMER
SCROLL
SOURCE
FUNC
BAND/ ESC
DISP/CLOCK
AUDIO
VOL+
VOL-
EQ-
EQ+
NOTE :
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022


A-b
A-a
D CN202
D CN301
CN201
CN902
IP BUS
IP BUS(MD 1kHz 0dB):+2.2dBs
MD(CD 1kHz 0dB):-0.97dBs
VD REGULATOR
IP-BUS DRIVER
IC962
CA0008AM
IC601
PE5074A
SYSTEM CONTROLLER
RDS DECODER
IC651
PM4009A
X701
CSS1447
(*3.648MHz)
FM(100%):-15.5dBs
AM (30%):-26.0dBs
A TUNER AMP UNIT
B FM/AM TUNER UNIT
ANTENNA JACK
CN451
DSP-201M-A2-F
ZNR301
LOAD/EJT
FM/AM
/EW
DGND
AGND
RDS5V
5.3V
3.1V
8.5V
TVCC
VCC
GND

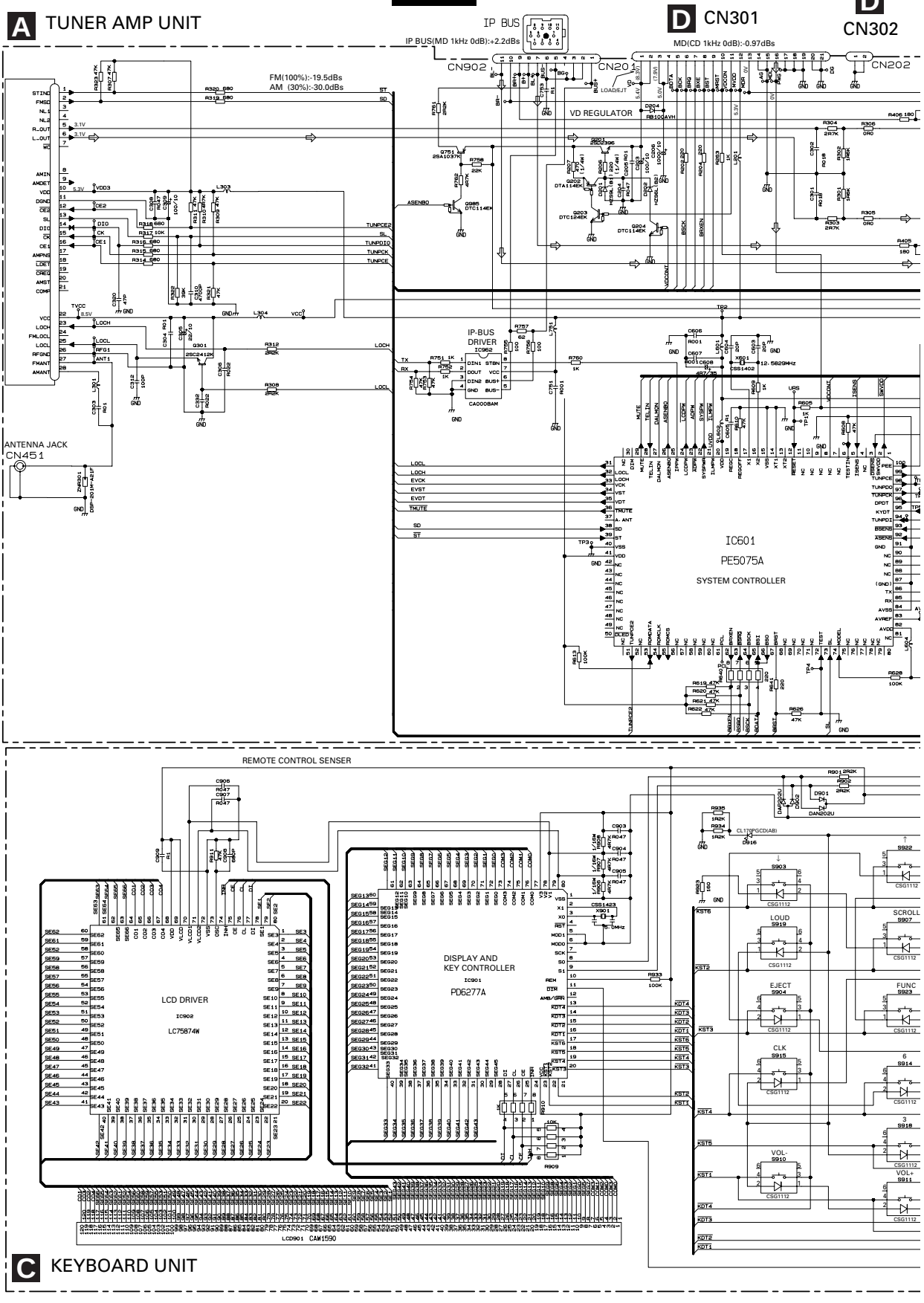

KEYBOARD UNIT
REMOTE CONTROL SENSER
DISPLAY AND KEY CONTROLLER
IC901
PD6277A
LCD DRIVER
IC902
LC75874W
SCROLL
FUNC
TA,NEWS
EJECT
PTY
VOL-
VOL+
CAW1589
LCD901


A-b
A-a
CN452
REAR PREOUT
L ch
R ch
CN905
POWER AMP
PAL005A
IC301
MUTE
VCC 8.5V REGULATOR
VDD REGULATOR
ELECTRONIC VOLUME SOURCE SELECTOR
BACK UP SENSE
ACC SENSE
ILLUMINATION SENSE
TELEPHONE MUTE
RESET
MD:+10.1dBs
IP-BUS:+10.3dBs
FM:+7.6dBs
AM:-0.9dBs
MD:-36.1dBs
IP-BUS:+36.3dBs
FM:+33.6dBs
AM:+25.1dBs
MD:-0.97dBs
IP-BUS:+2.2dBs
FM:-15.5dBs
AM:-26.0dBs
↓202
↓204


BACK LIGHT REGULATOR
ILLUMINATION REGULATOR
LCD BACK LIGHT
DIMMER
DUAL ILLUMI-NATION SELECTOR
TELEPHONE MUTE
DISP/CLOCK
AUDIO
SOURCE
BAND/ ESC
SCROLL
FUNC
VOL+
EQ+
EQ-
CN901
CN903
NOTE :
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022

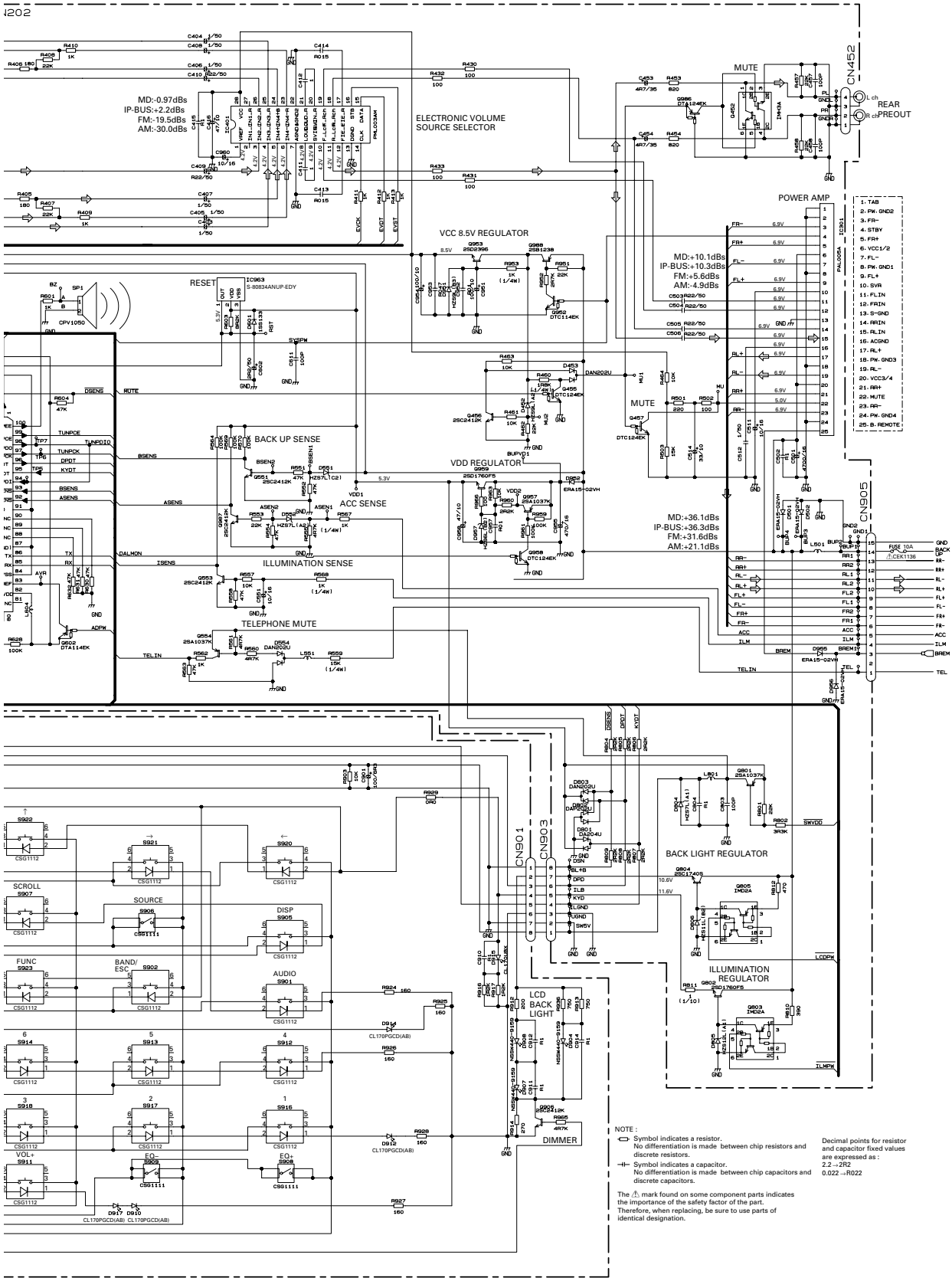
3.4 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)(MEH-P5150/ES)

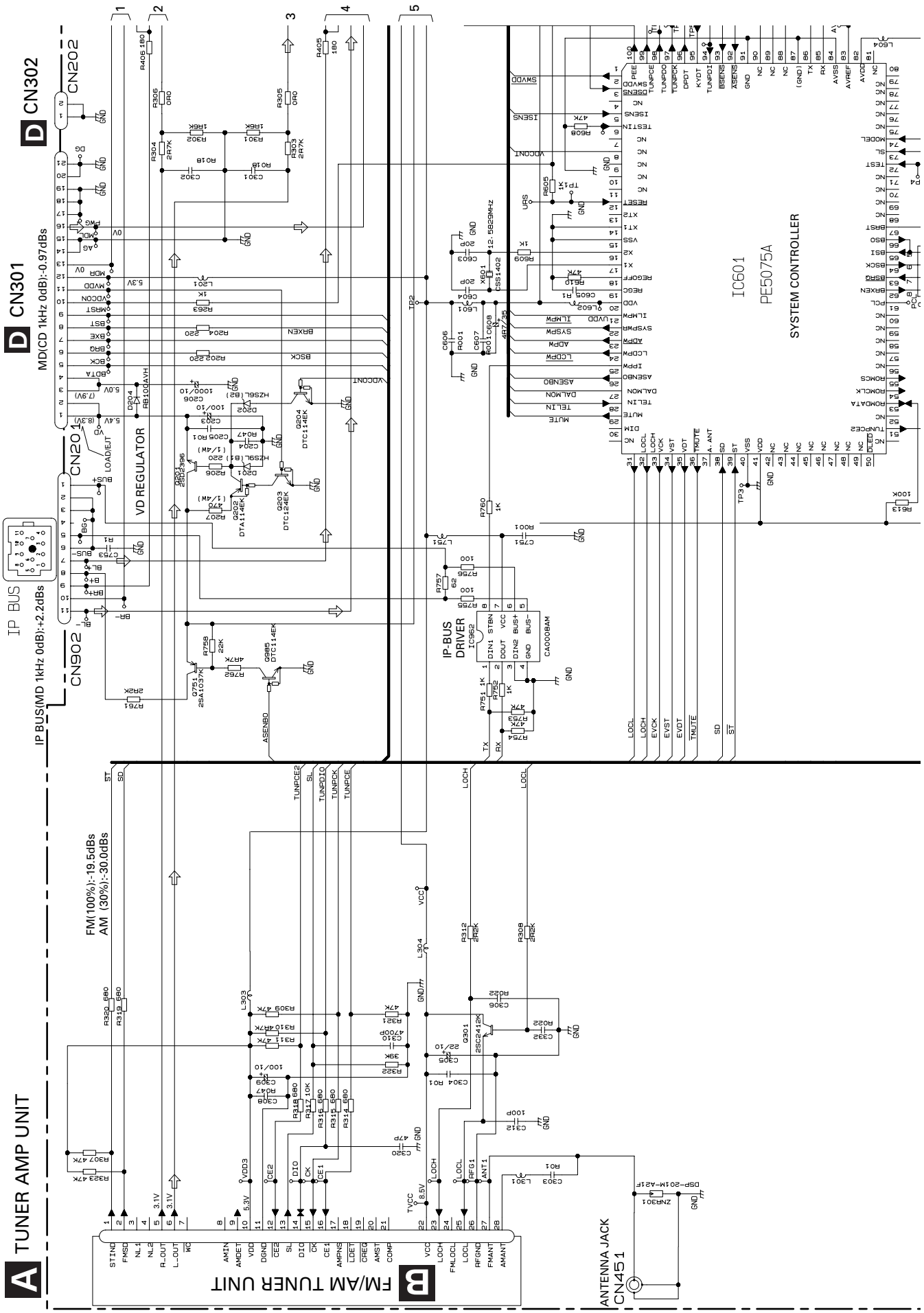
A-a

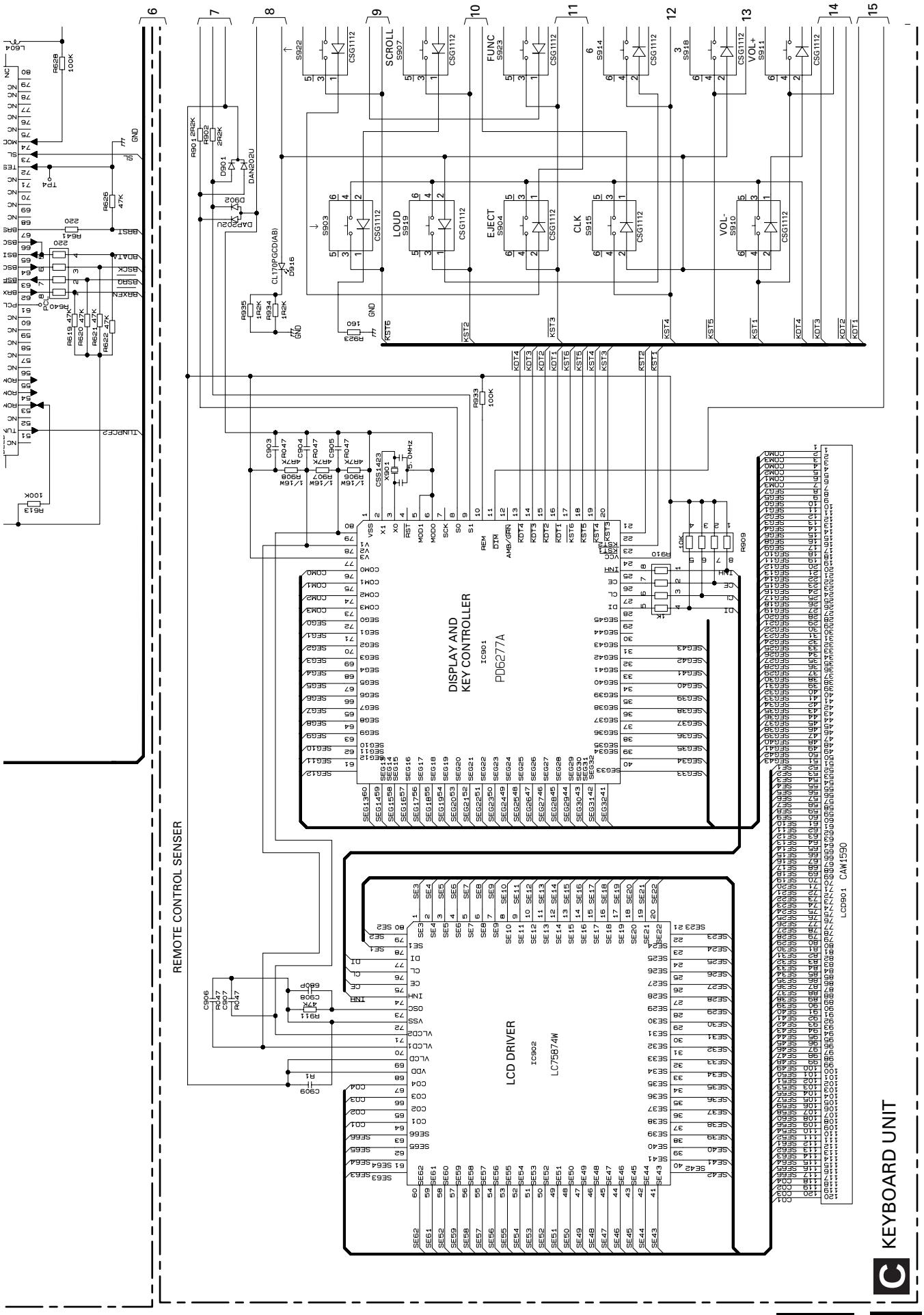


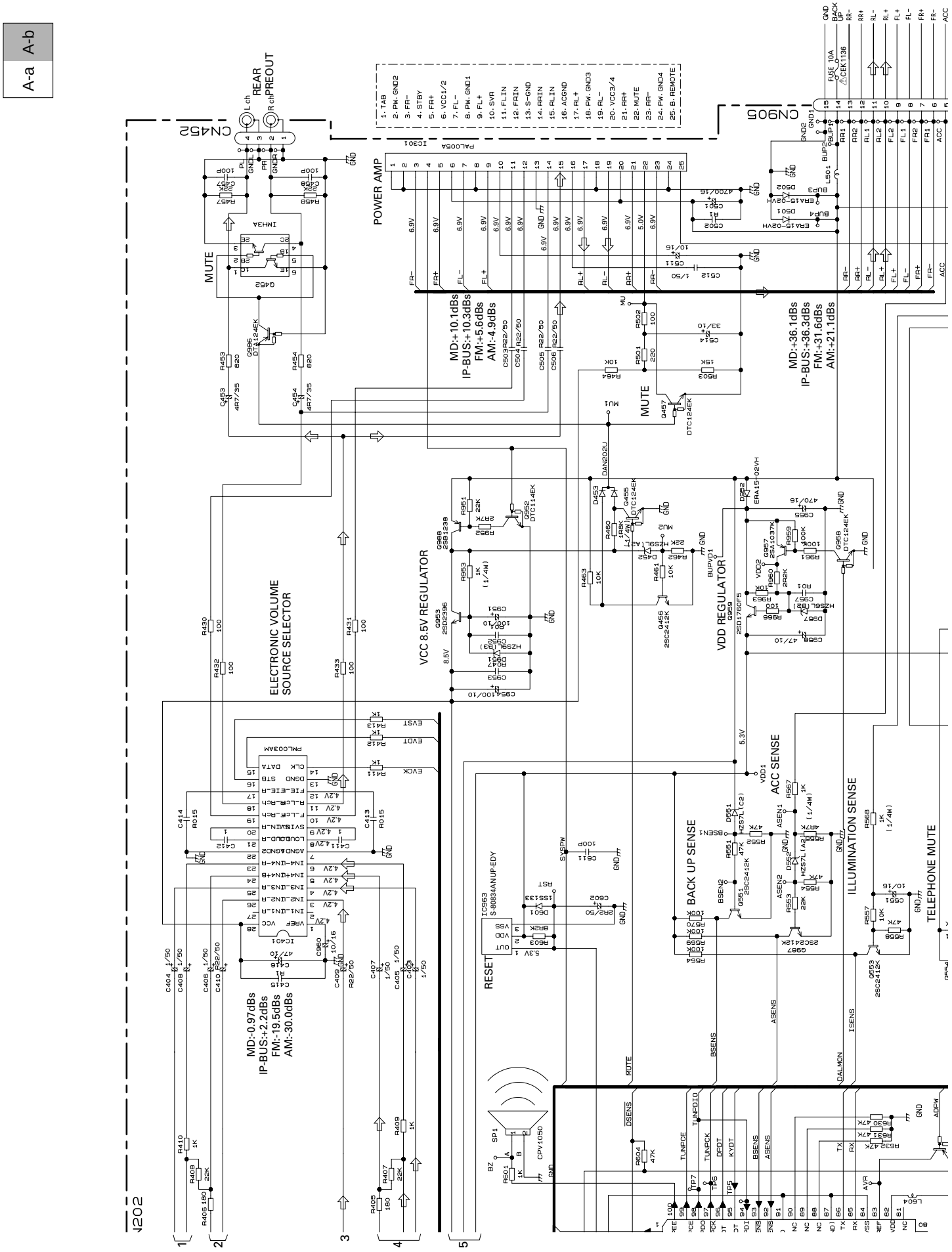
A C

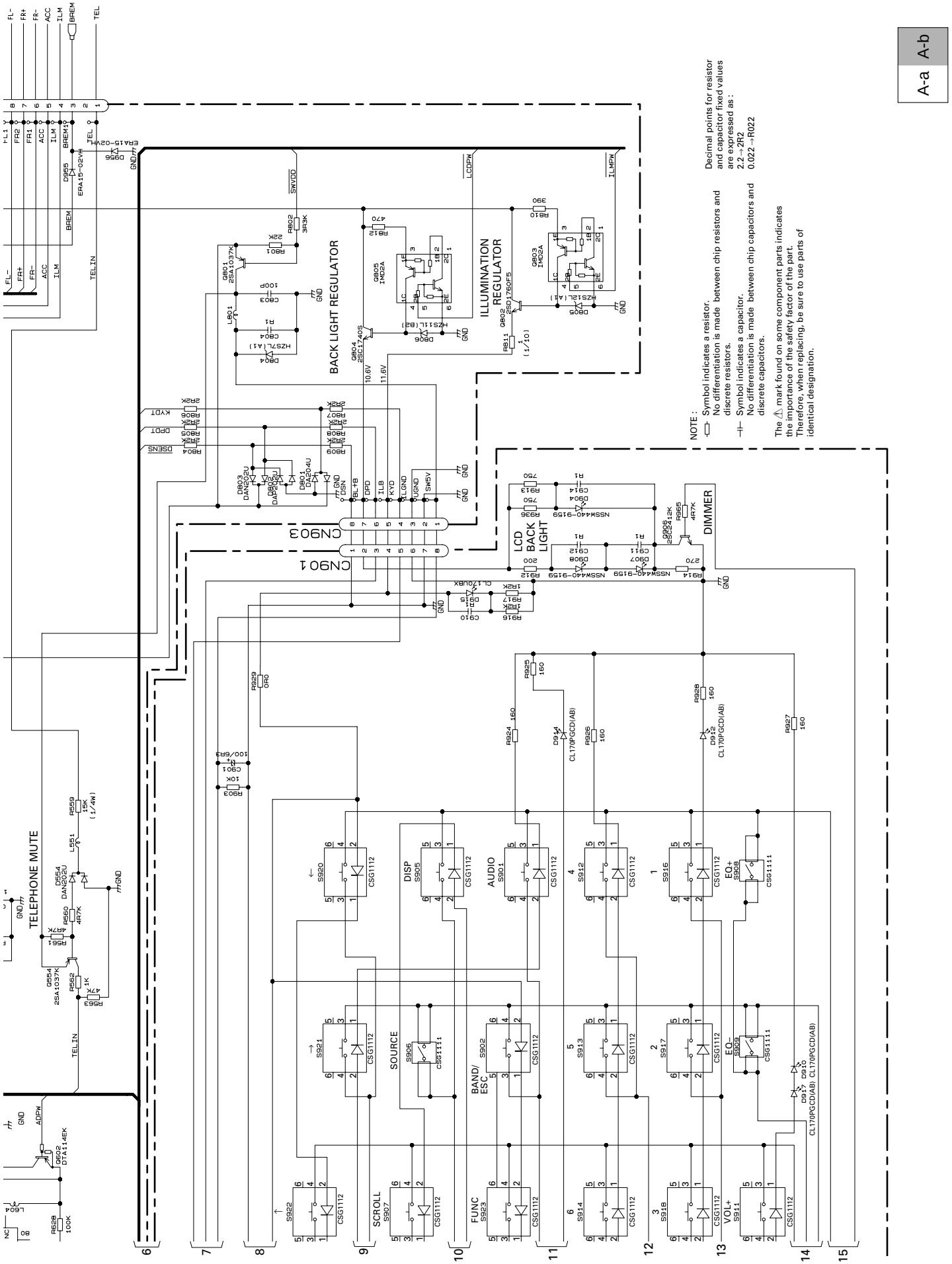
A-b


MD:-0.97dBs
IP-BUS:+2.2dBs
FM:-19.5dBs
AM:-30.0dBs
ELECTRONIC VOLUME SOURCE SELECTOR
MUTE
CN452
L ch
R ch
REAR PREOUT
POWER AMP
VCC 8.5V REGULATOR
MD:+10.1dBs
IP-BUS:+10.3dBs
FM:+5.6dBs
AM:-4.9dBs
RESET
BACK UP SENSE
VDD REGULATOR
ACC SENSE
MD:+36.1dBs
IP-BUS:+36.3dBs
FM:+31.6dBs
AM:+21.1dBs
ILLUMINATION SENSE
TELEPHONE MUTE
CN905
CN901
CN903
BACK LIGHT REGULATOR
ILLUMINATION REGULATOR
LCD BACK LIGHT
DIMMER
SCROLL
SOURCE
DISP
AUDIO
FUNC
BAND/ ESC
VOL+
VOL-
EQ-
EQ+
NOTE :
Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2 → 2R2
0.022 → R022

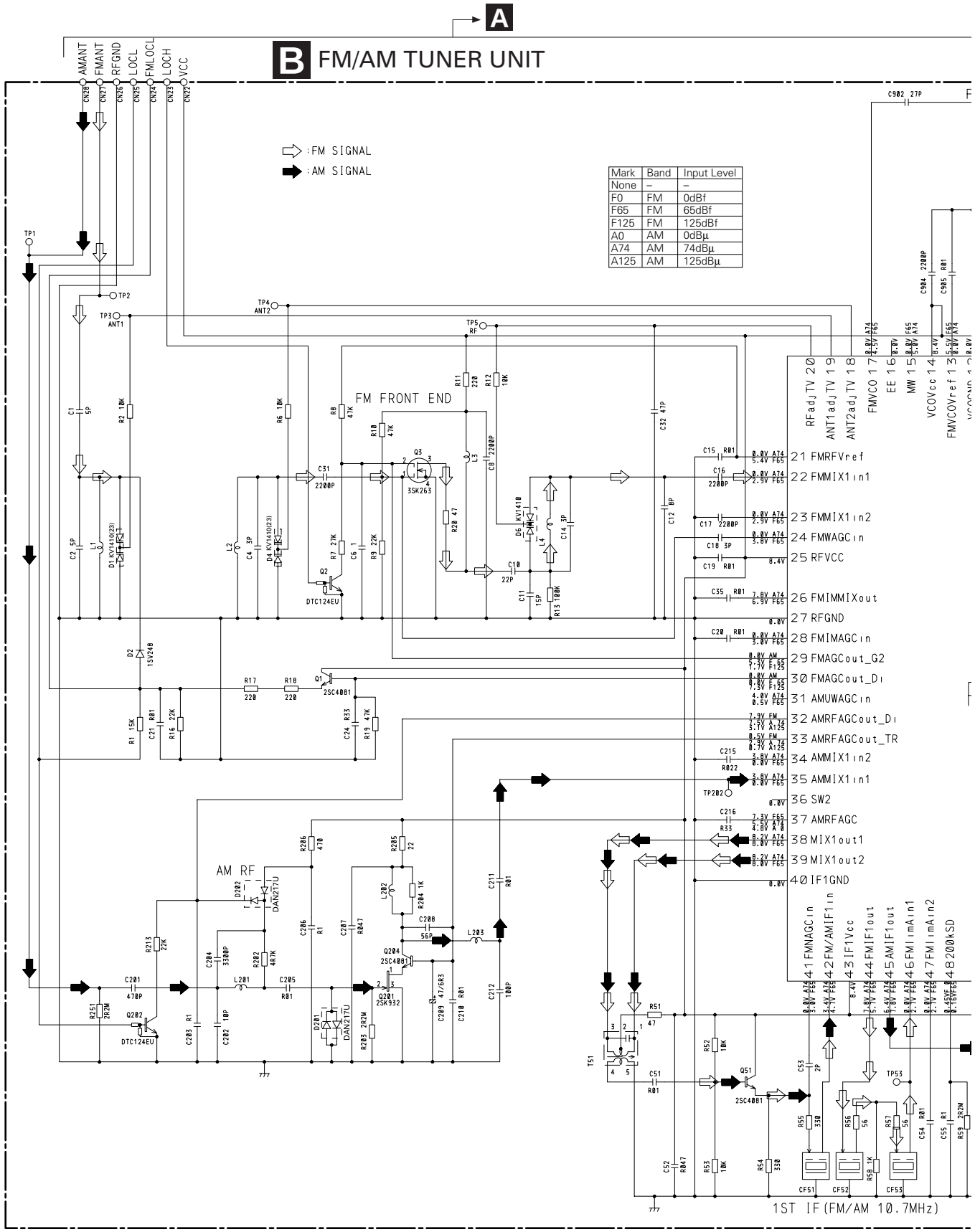

A-b
A-a
CN202
CN301
MD(CD 1kHz 0dB):-0.97dBs
CN201
VD REGULATOR
CN902
IP BUS(MD 1kHz 0dB):+2.2dBs
IP BUS
IP-BUS DRIVER
IC962
IC601
PE5075A
SYSTEM CONTROLLER
FM(100%):-19.5dBs
AM (30%):-30.0dBs
TUNER AMP UNIT
FM/AM TUNER UNIT
ANTENNA JACK
CN451

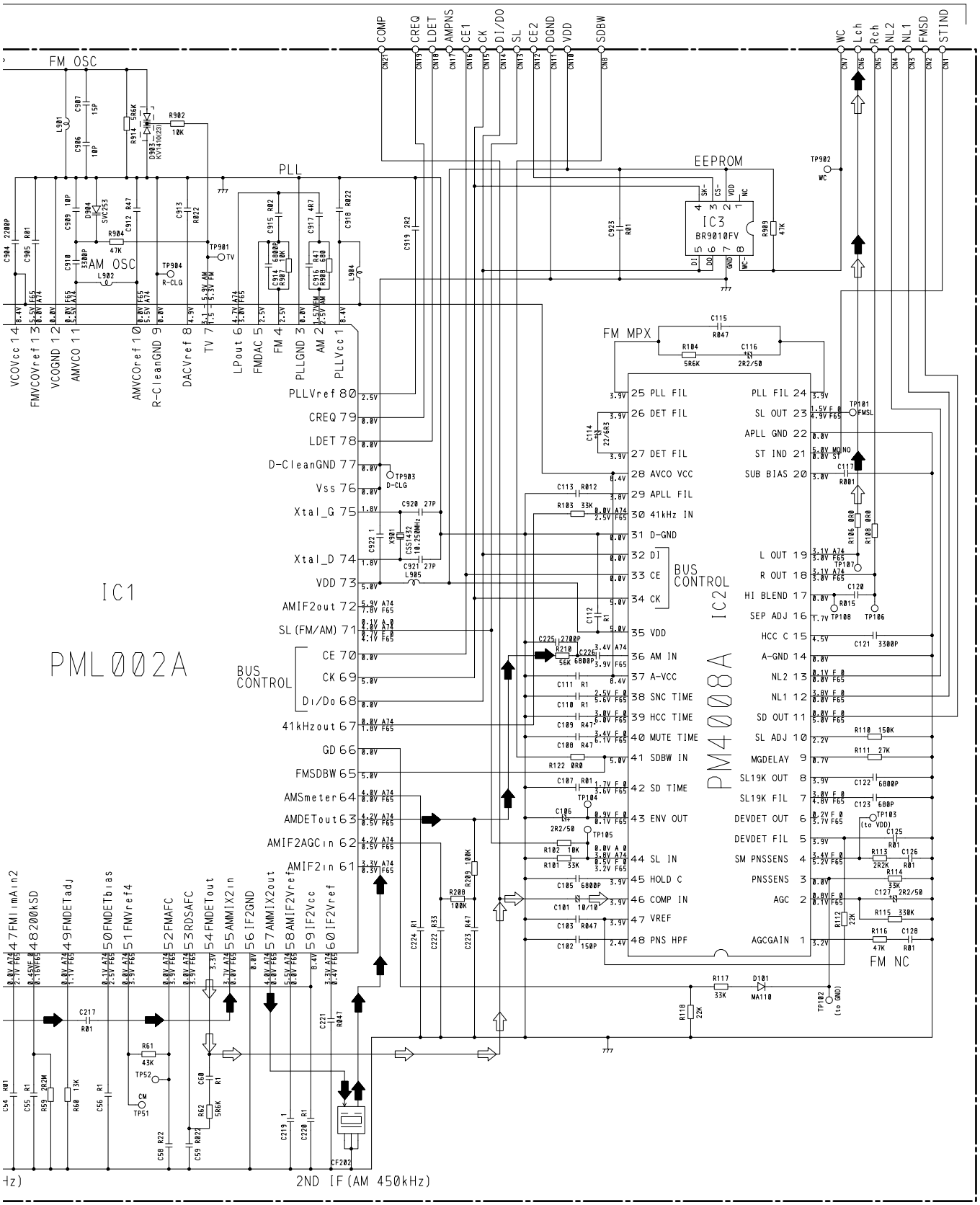

REMOTE CONTROL SENSER
KEYBOARD UNIT
DISPLAY AND KEY CONTROLLER
IC901
PD6277A
LCD DRIVER
IC902
LC75874W
LCD901 CAW1590
SCROLL
FUNC
LOUD
EJECT
CLK
VOL-
VOL+
CSG1112
CL170PGCD(AB)
DAN202U
CSS1423
5.0MHz


A-b
A-a
CN452
REAR PREOUT
CN905
POWER AMP
MUTE
ELECTRONIC VOLUME SOURCE SELECTOR
VCC 8.5V REGULATOR
VDD REGULATOR
RESET
BACK UP SENSE
ACC SENSE
ILLUMINATION SENSE
TELEPHONE MUTE
MD:-0.97dBs
IP-BUS:+2.2dBs
FM:-19.5dBs
AM:-30.0dBs
MD:+10.1dBs
IP-BUS:+10.3dBs
FM:+5.6dBs
AM:-4.9dBs
MD:-36.1dBs
IP-BUS:+36.3dBs
FM:+31.6dBs
AM:+21.1dBs

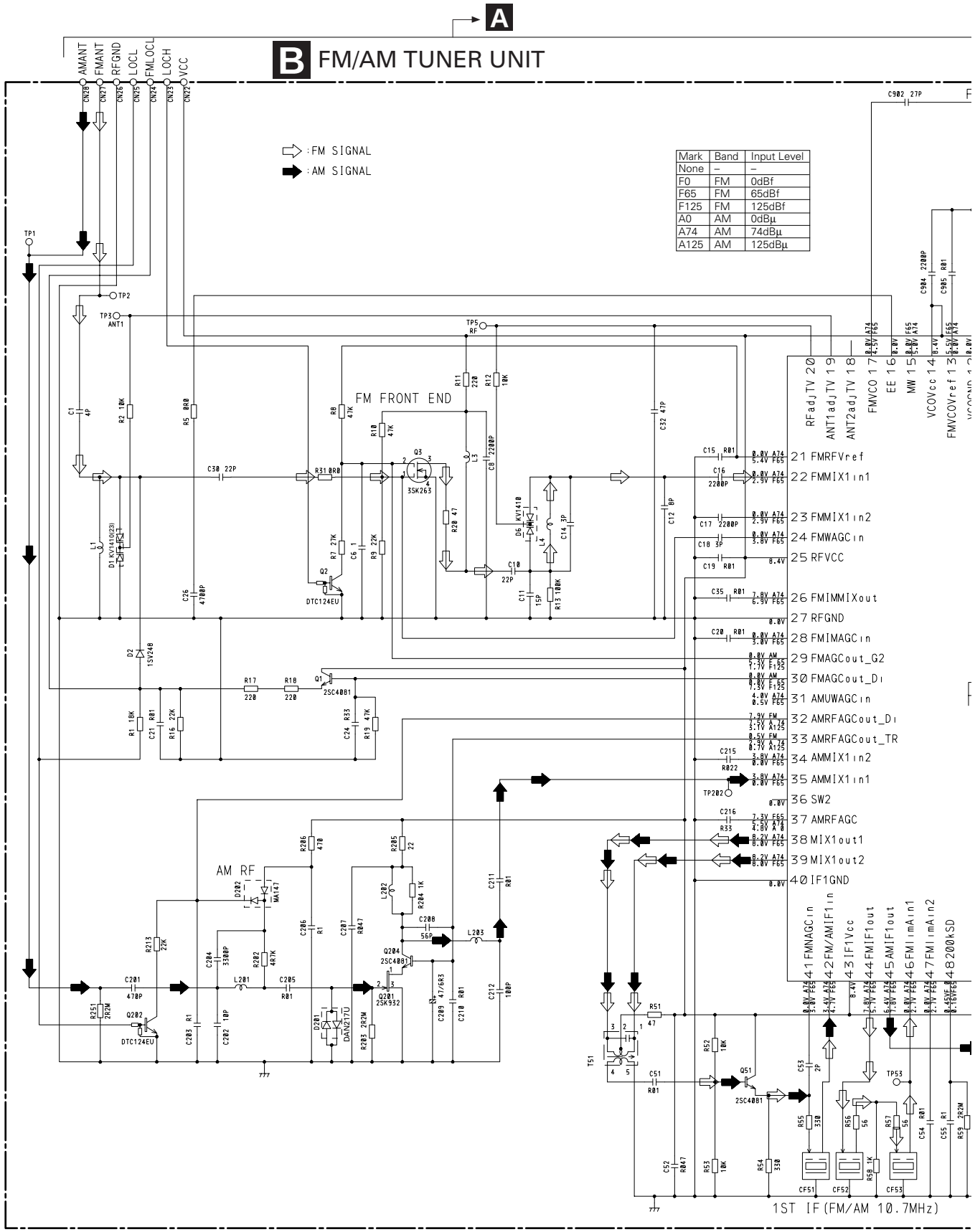

A-a A-b
NOTE :
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as :
2.2→2R2
0.022→R022
BACK LIGHT REGULATOR
ILLUMINATION REGULATOR
LCD BACK LIGHT
DIMMER
TELEPHONE MUTE
CN901
CN903
DISP
AUDIO
SOURCE
BAND/ESC
SCROLL
FUNC
VOL+
EQ+
EQ-
A-b
C

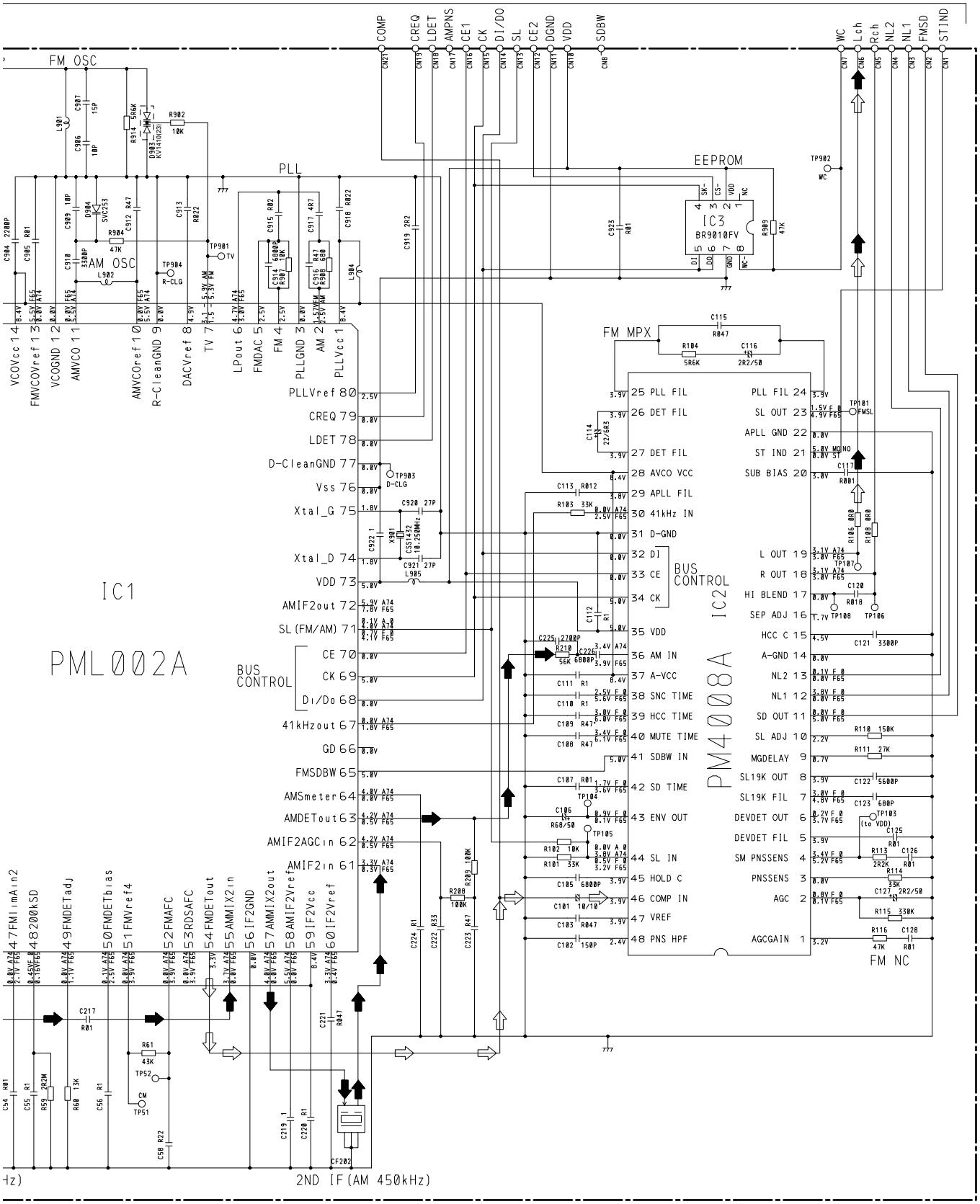
3.5 FM/AM TUNER UNIT(MEH-P5100R/EW)



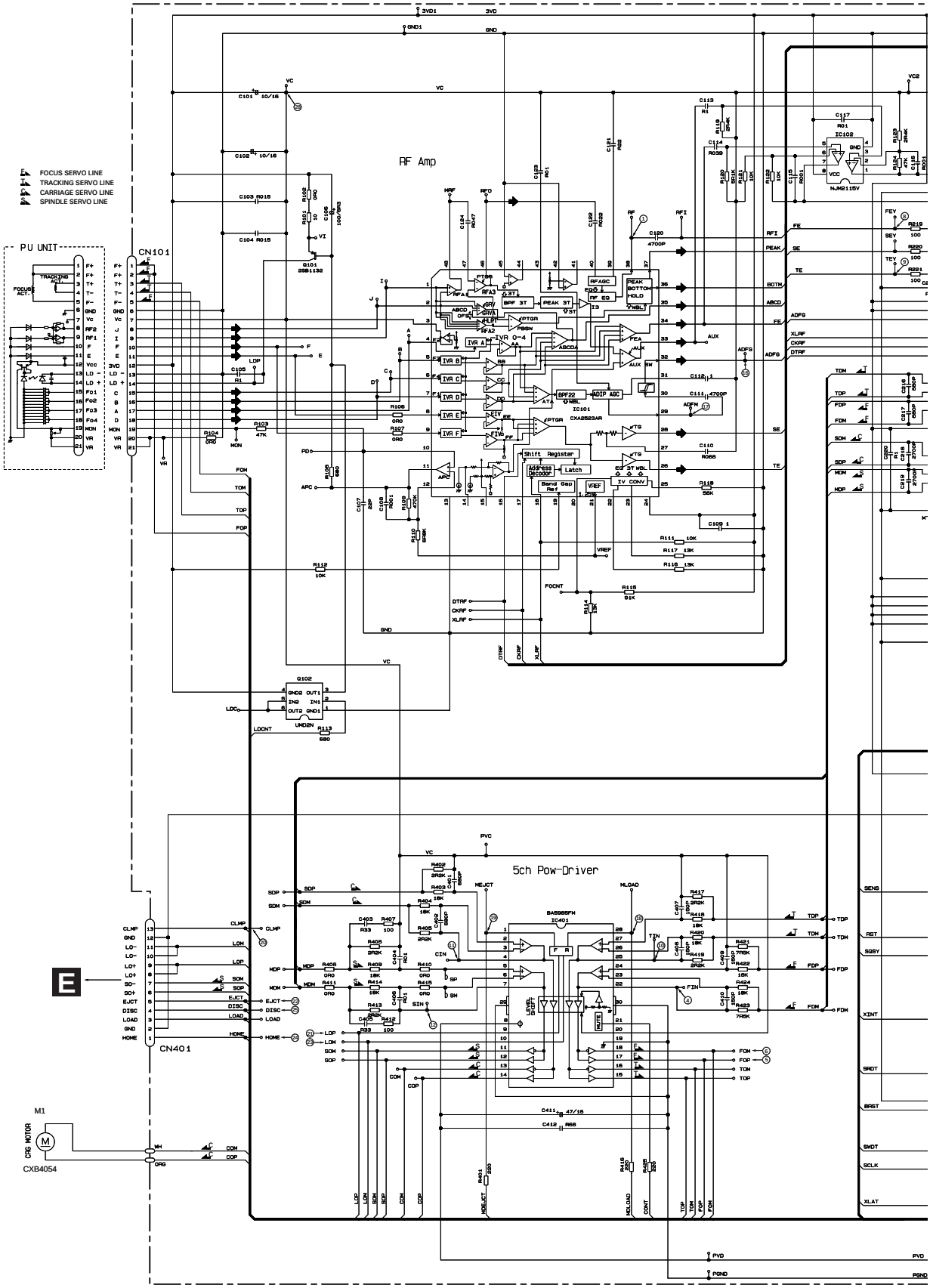

IC1
PML002A
PM4008A IC2
IC3
BR9010FV
EEPROM
FM OSC
AM OSC
PLL
FM MPX
BUS CONTROL
FM NC
2ND IF(AM 450kHz)
COMP
CREQ
LDET
AMPNS
CE1
CK
DI/DO
SL
CE2
DGND
VDD
SDBW
WC
Lch
Rch
NL2
NL1
FMSD
STIND

3.6 FM/AM TUNER UNIT(MEH-P5150/ES)

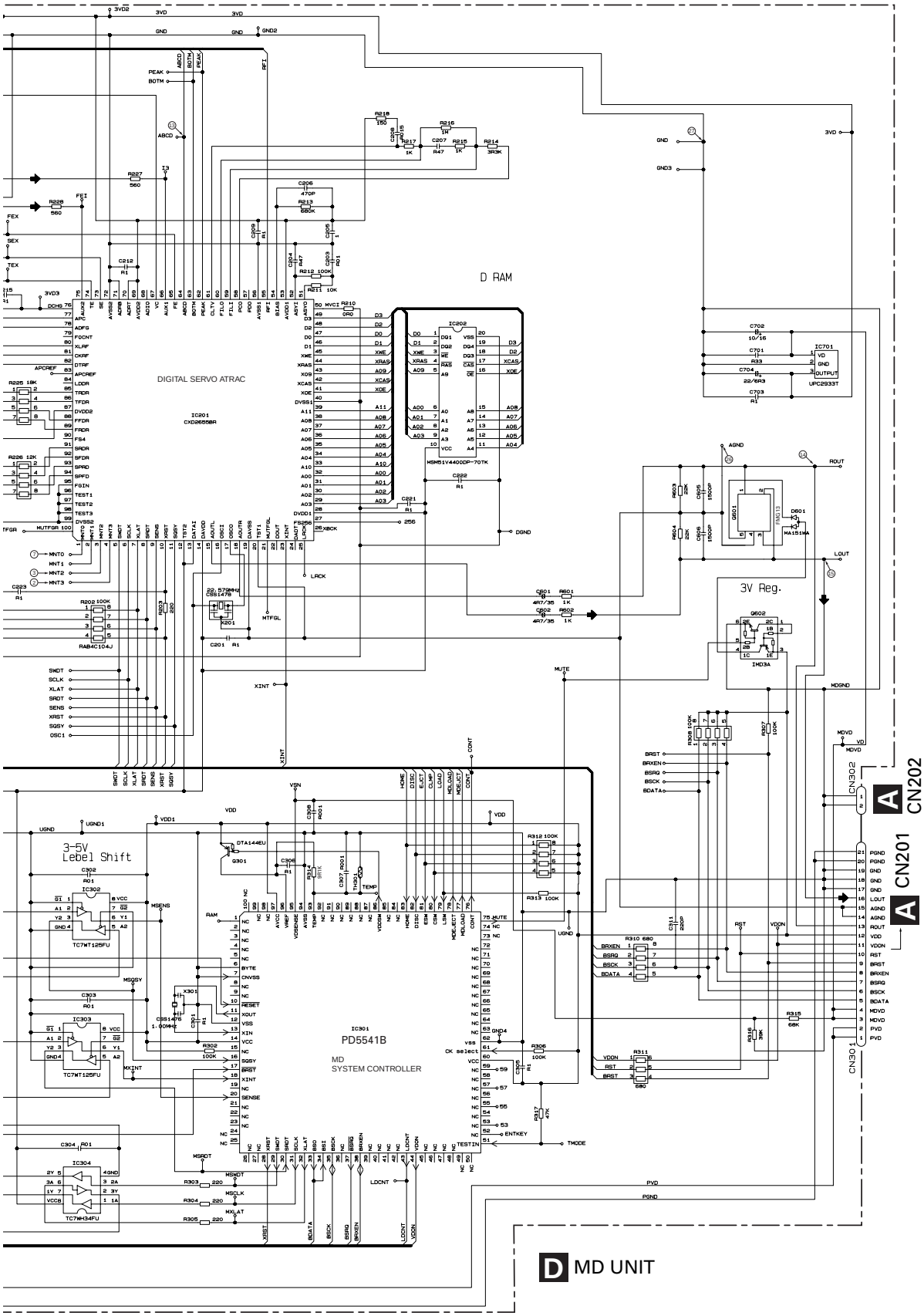


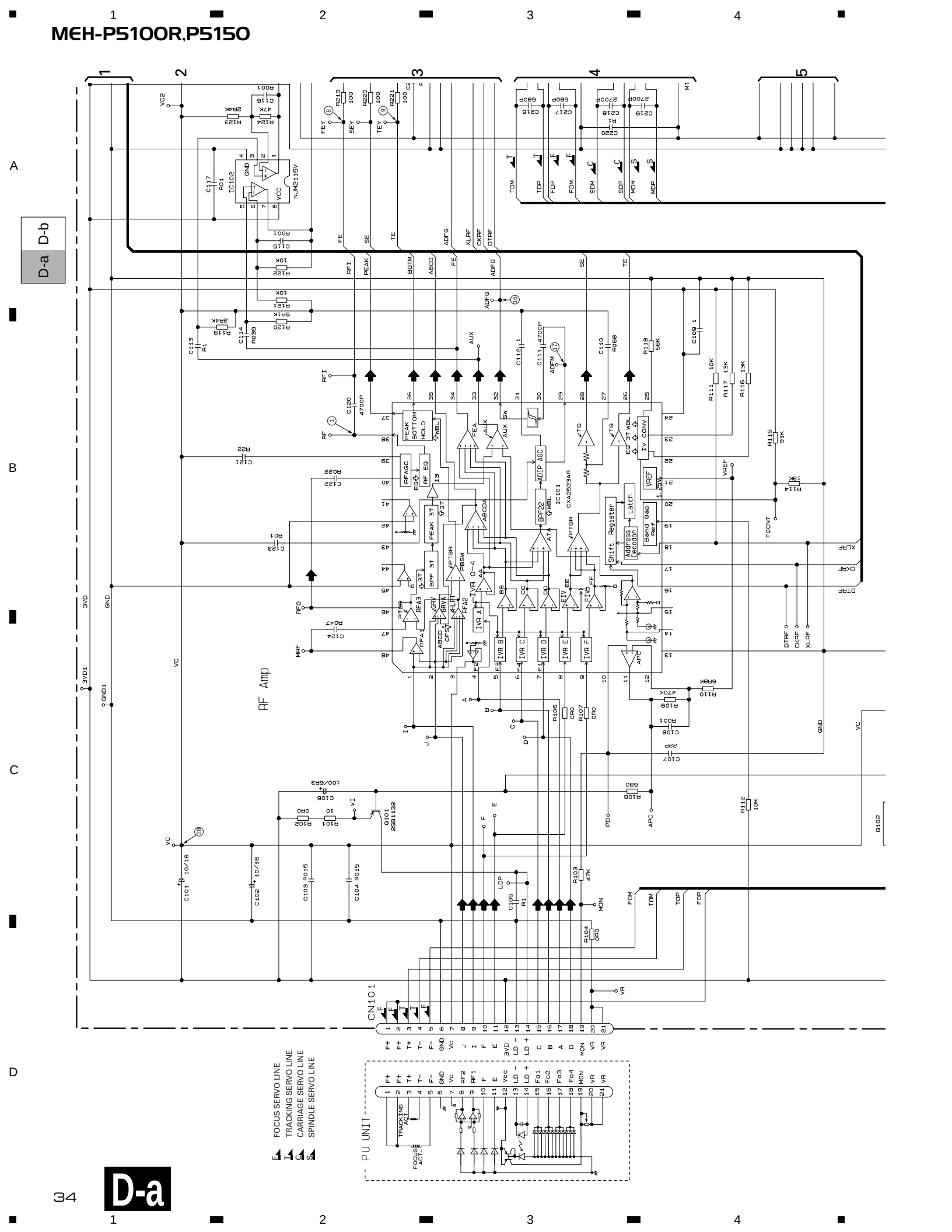

FM OSC
AM OSC
PLL
EEPROM
IC3
BR9010FV
FM MPX
IC1
PML002A
BUS CONTROL
IC2
PM4008A
FM NC
2ND IF(AM 450kHz)
COMP
CREQ
LDET
AMPNS
CE1
CK
DI/DO
SL
CE2
DGND
VDD
SDBW
WC
Lch
Rch
NL2
NL1
FMSD
STIND
VCOVcc 14
FMVCOVref 13
VCOGND 12
AMVCO 11
AMVCOref 10
R-CleanGND 9
DACVref 8
TV 7
LPout 6
FMDAC 5
FM 4
PLLGND 3
AM 2
PLLVcc 1
PLLVref 80
CREQ 79
LDET 78
D-CleanGND 77
Vss 76
Xtal_G 75
Xtal_D 74
VDD 73
AMIF2out 72
SL (FM/AM) 71
CE 70
CK 69
Di/Do 68
41kHzout 67
GD 66
FMSDBW 65
AMSmeter 64
AMDETout 63
AMIF2AGCin 62
AMIF2in 61
47FMIinAin2
48200kSD
49FMDETadJ
50FMDETbias
51FMVref4
52FMAFC
53RDSAFC
54FMDETout
55AMMIX2in
56IF2GND
57AMMIX2out
58AMIF2Vref
59IF2Vcc
60IF2Vref
25 PLL FIL
26 DET FIL
27 DET FIL
28 AVCO VCC
29 APLL FIL
30 41kHz IN
31 D-GND
32 DI
33 CE
34 CK
35 VDD
36 AM IN
37 A-VCC
38 SNC TIME
39 HCC TIME
40 MUTE TIME
41 SDBW IN
42 SD TIME
43 ENV OUT
44 SL IN
45 HOLD C
46 COMP IN
47 VREF
48 PNS HPF
PLL FIL 24
SL OUT 23
APLL GND 22
ST IND 21
SUB BIAS 20
L OUT 19
R OUT 18
HI BLEND 17
SEP ADJ 16
HCC C 15
A-GND 14
NL2 13
NL1 12
SD OUT 11
SL ADJ 10
MGDELAY 9
SL19K OUT 8
SL19K FIL 7
DEVDET OUT 6
DEVDET FIL 5
SM PNSSENS 4
PNSSENS 3
AGC 2
AGCGAIN 1

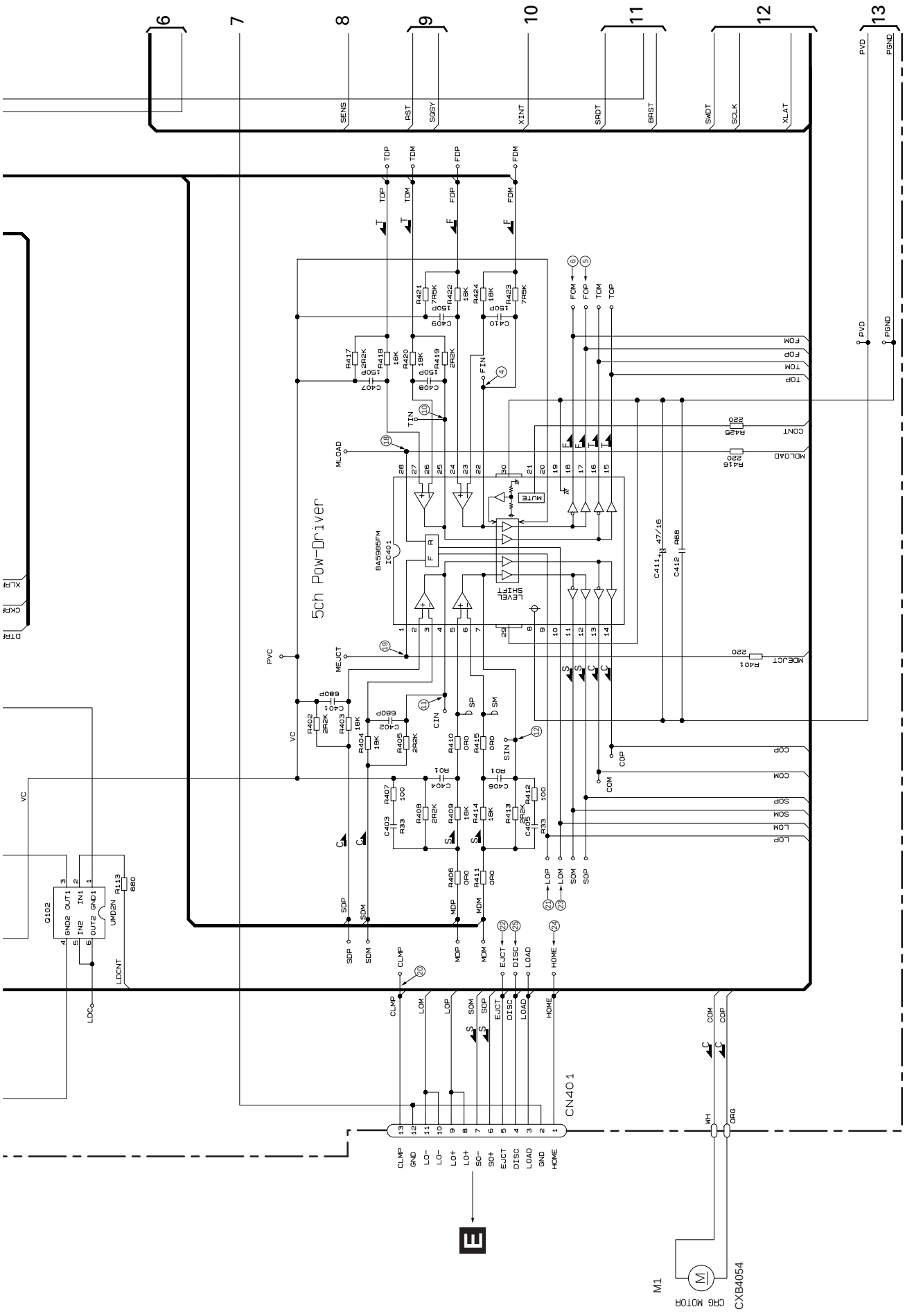
3.7 MD MECHANISM MODULE(GUIDE PAGE) D-a



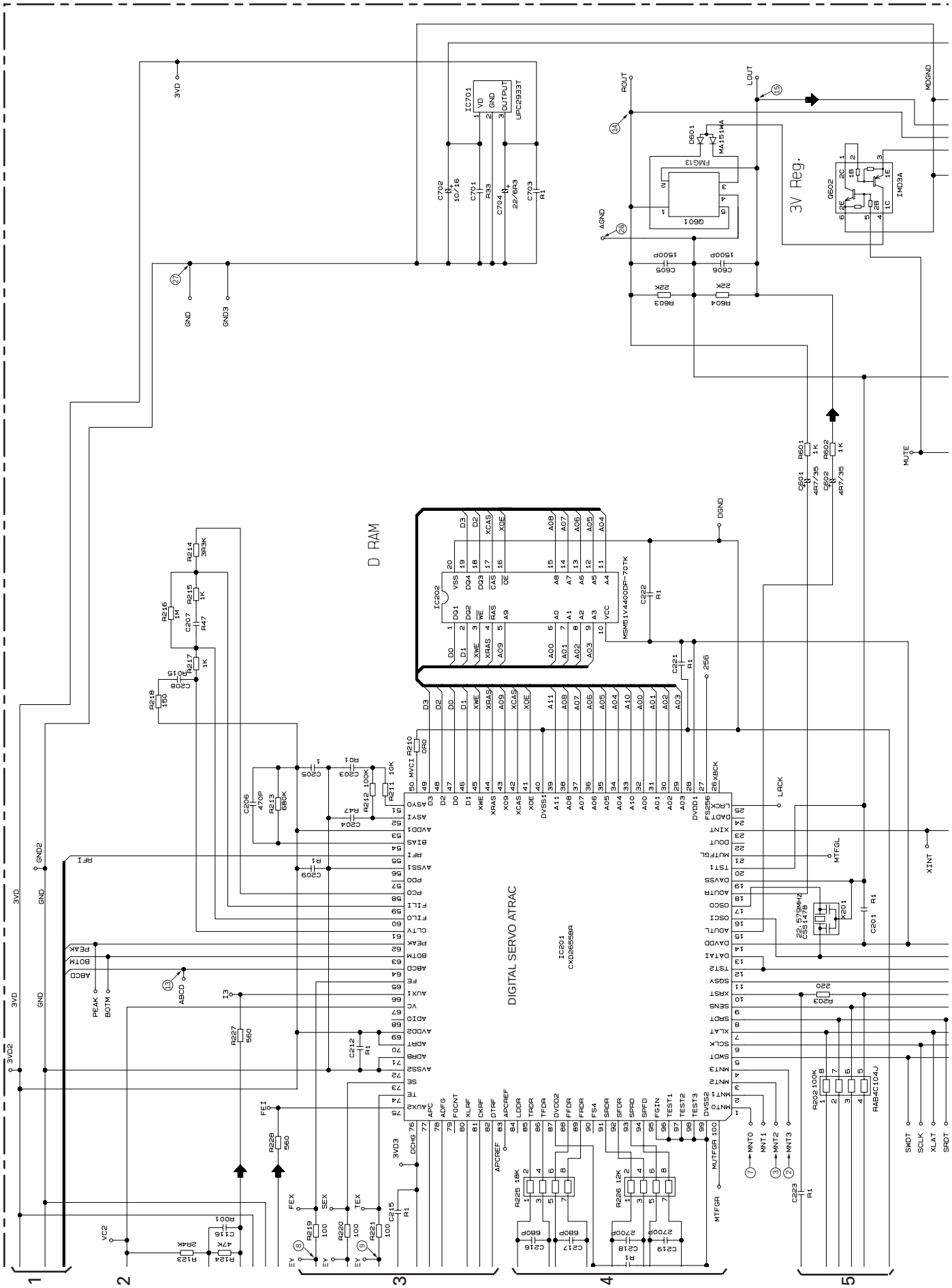
D-b

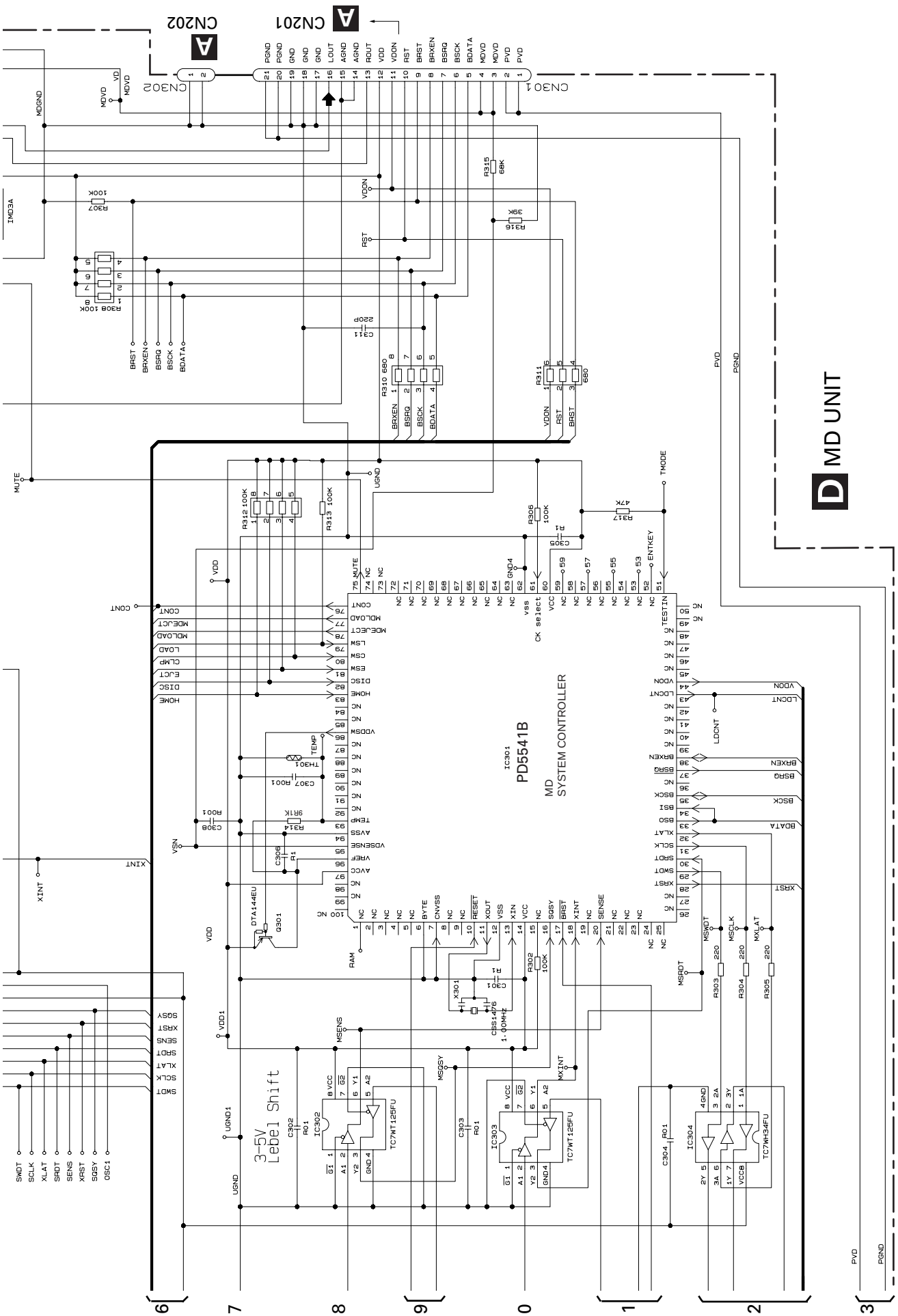

D RAM
DIGITAL SERVO ATRAC
IC201
CXD2665BR
IC202
MSM51V4400DP-70TK
3V Reg.
3-5V
Lebel Shift
IC301
PD5541B
MD
SYSTEM CONTROLLER
CN202
CN201
CN301
D MD UNIT


RF Amp
IC101
CXA2523AR
CN101
PU UNIT
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
D-a
D-b


5ch Pow-Driver
IC401
BA5985FM
CN401
CRG MOTOR
CXB4054
M1
Q102
UMD2N
SENS
RST
SQSY
XINT
SRDT
BRST
SWDT
SCLK
XLAT
PVD
PGND
TDP
TDM
FDP
FDM
FOM
FOP
TOM
TOP
CONT
MLOAD
MUTE
MEJCT
CIN
SIN
SP
SM
VC
LDCNT
LDC
SDP
SDM
MDP
MDM
CLMP
EJCT
DISC
LOAD
HOME
LOM
LOP
SOM
SOP
COM
COP
CLMP
GND
LO-
LO-
LO+
LO+
SO-
SO+
EJCT
DISC
LOAD
GND
HOME
WH
ORG

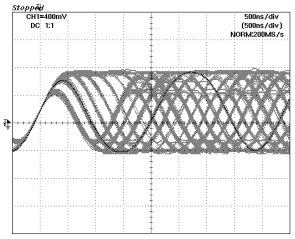
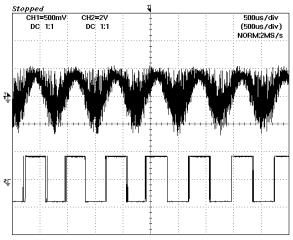
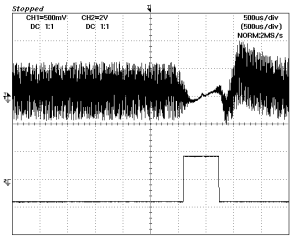
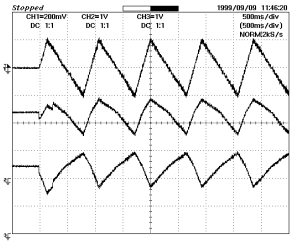
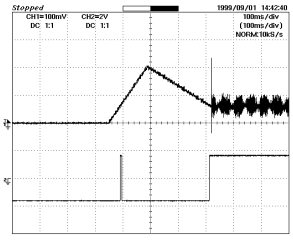
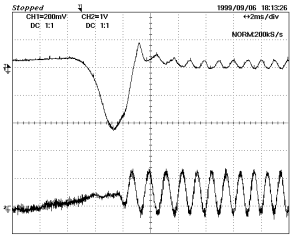
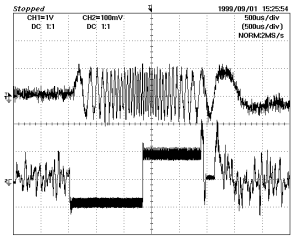
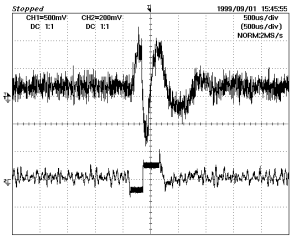
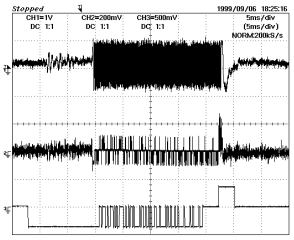
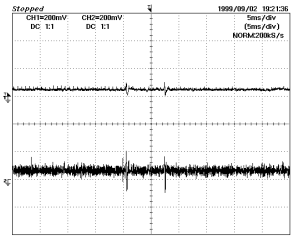
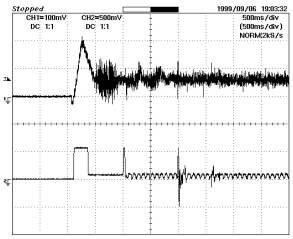
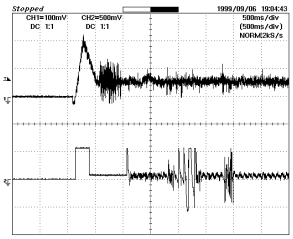
D-a D-b


D-a D-b
DIGITAL SERVO ATRAC
IC201
CXD2655BR
D RAM
IC202
MSM51V4400DP-70TK
3V Reg.
IC701
UPC2933T
D601
MA151WA
Q602
IMD3A
Q601
FMG13
X201
22.579MHz
CSS1478
3VD
GND
GND2
GND3
AGND
DGND
MDGND
MUTE
LOUT
ROUT
XINT
LRCK
MTFGL
SWDT
SCLK
XLAT
SHDT
MNT0
MNT1
MNT2
MNT3
RAB4C104J
ABCD
PEAK
BOTM
FEI
FEX
SEX
TEX
VC2
MTFGR

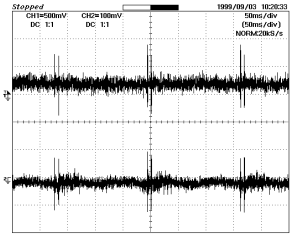
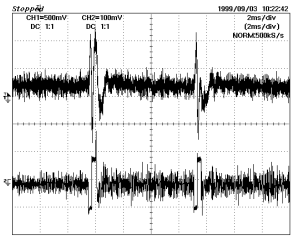
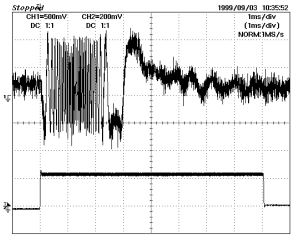
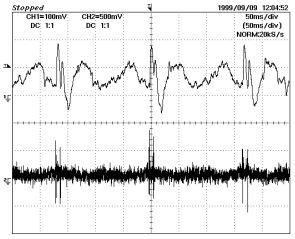
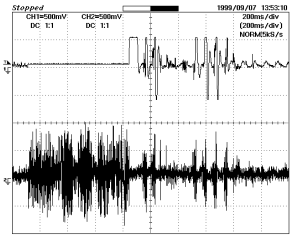
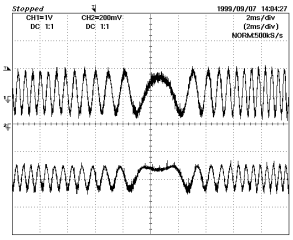
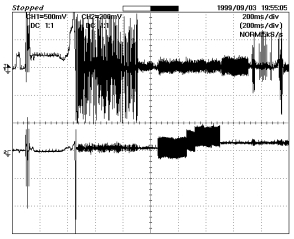
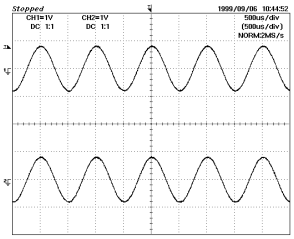
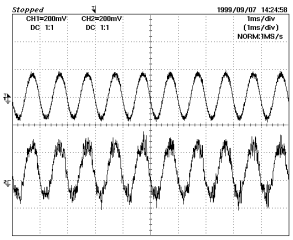
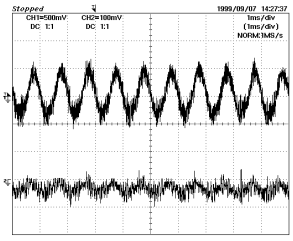
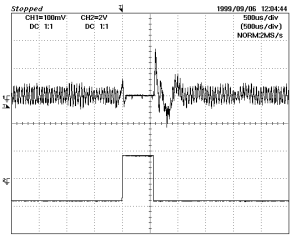
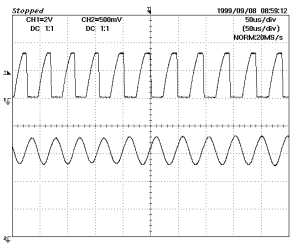

D MD UNIT
D-a D-b
CN201
CN202
CN301
CN302
IC301
PD5541B
MD
SYSTEM CONTROLLER
IC302
IC303
IC304
TC7WT125FU
TC7WH34FU
3-5V
Level Shift
X301
CSS1476
1.00MHz
Q301
DTA144EU
TH301
R314
9R1K
IMO3A
MUTE
TMODE
ENTKEY
LDCNT
XINT
VDD
VDD1
VSN
UGND
PVD
PGND
MSENS
MSGSY
MXINT
MSWDT
MSCLK
MXLAT
MSRDT
SWDT
SCLK
XLAT
SRDT
SENS
XRST
SQSY
OSC1

● Waveforms

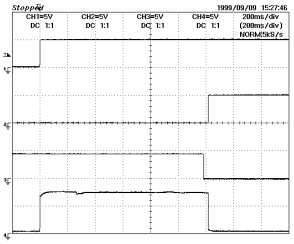
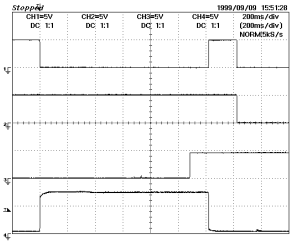
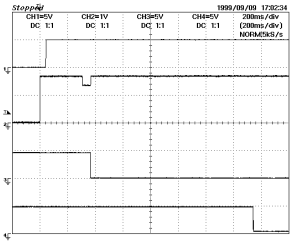
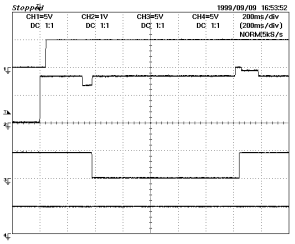
Notes:
1. Circled figures represent the measuring points in the circuit diagram.
2. Reference voltage VC: 1.65V < <28>VC >
3. Premastered MD, Make measurements using the MMD110.
   Nonetheless, waveforms indicated as “Recordable MD” should be measured using the MMD212.
4. Use TMD325W as the Defect MD.

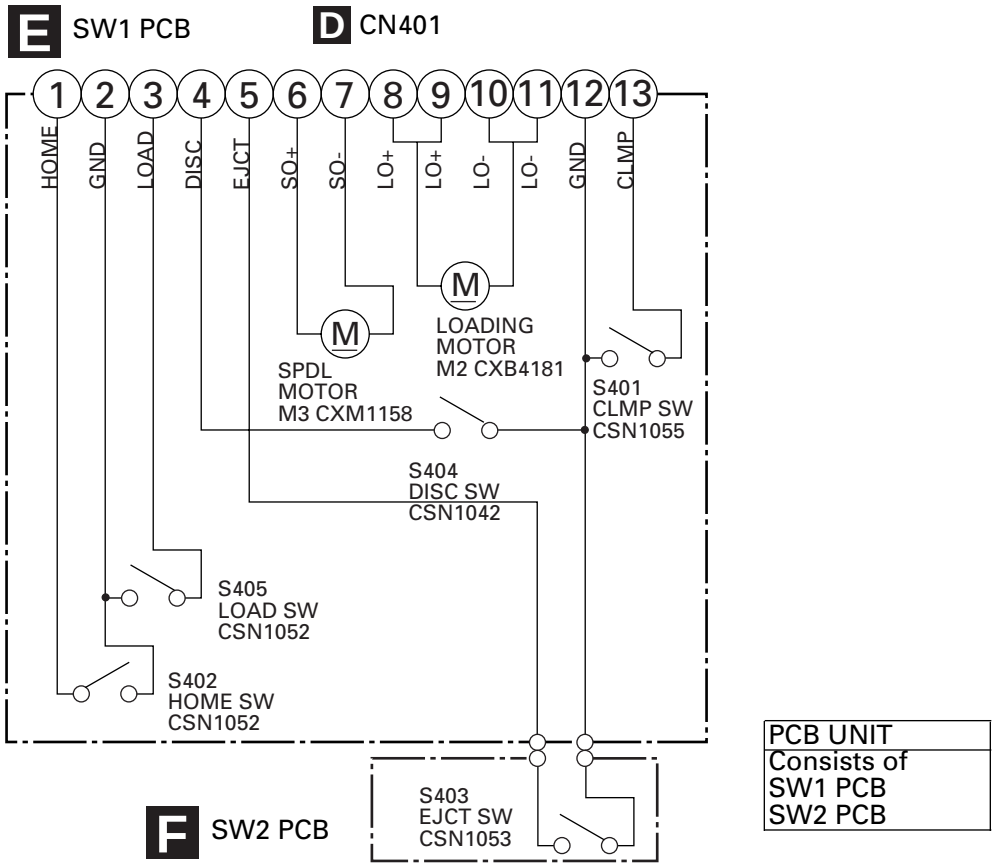
① RF 0.4V/div. 0.5µs/div. Normal mode: play 	① CH1: RF 0.5V/div. 0.5ms/div. ② CH2: MNT3 2V/div. (OFTRK) Test mode: Tracking open 	① CH1: RF 0.5V/div. 0.5ms/div. ③ CH2: MNT2 2V/div. (DFCT) Test mode: The defect part passes 800µm 
④ CH1: FIN 0.2mV/div. ⑤ CH2: FOP 1V/div. 0.5s/div. ⑥ CH2: FOM 1V/div. Test mode: No disc, Focus close 	④ CH1: FIN 0.5V/div. 0.2s/div. ⑦ CH2: MNT0 2V/div. (FOK) Normal mode: Focus close 	⑧ CH1: FEY 0.2V/div. 2ms/div. ⑨ CH2: TEY 1V/div. Normal mode: Focus close 
⑨ CH1: TEY 1V/div. 0.5ms/div. ⑩ CH2: TIN 0.1V/div. Test mode: 32 tracks jump (REV) 	⑨ CH1: TEY 0.5V/div. 0.5ms/div. ⑩ CH2: TIN 0.2V/div. Test mode: Single jump (REV) 	⑨ CH1: TEY 1V/div. 5ms/div. ⑩ CH2: TIN 0.2V/div. ⑪ CH3: CIN 0.5V/div. Test mode: Fine jump (REV) 
⑧ CH1: FEY 0.2V/div. 5ms/div. ④ CH2: FIN 0.2V/div. Normal mode: Play 	④ CH1: FIN 0.1V/div. 0.5s/div. ⑫ CH2: SIN 0.5V/div. Normal mode: Play(Premastered MD) 	④ CH1: FIN 0.1V/div. 0.5s/div. ⑫ CH2: SIN 0.5V/div. Normal mode: Play(Premastered MD) 

*1 Use the AGND pin for grounding. < <26> GND >
*2 Use the GND pin for grounding. < <27> GND >

⑨ CH1: TEY 0.5V/div. ⑩ CH2: TIN 0.1V/div. 50ms/div. Normal mode: play 	⑨ CH1: TEY 0.5V/div. ⑩ CH2: TIN 0.1V/div. 2ms/div. Normal mode: play 	⑨ CH1: TEY 0.5V/div. ⑪ CH2: CIN 0.2V/div. 1ms/div. Test mode: 32 tracks jump (FWD) 
⑫ CH1: SIN 0.1V/div. ⑨ CH2: TEY 0.5V/div. 50ms/div. Normal mode: play 	⑫ CH1: SIN 0.5V/div. ⑨ CH2: TEY 0.5V/div. 50ms/div. Normal mode: Long search (Last track->1st track) 	⑨ CH1: TEY 1V/div. ⑬ CH2: ABCD 0.2V/div. 2ms/div. Test mode: Focus close,Tracking open 
⑨ CH1: TEY 0.5V/div. ⑧ CH2: FEY 0.5V/div. 0.2s/div. Normal mode: AGC after focus close (Recordable MD) 	⑭ CH1: ROUT 1V/div. ⑮ CH2: LOUT 1V/div. 0.5ms/div. Normal mode: Play(1kHz 0dB) *1 	⑧ CH1: FEY 0.2V/div. ④ CH2: FIN 0.2V/div. 1ms/div. Test mode: During AGC 
⑨ CH1: TEY 0.5V/div. ⑩ CH2: TIN 0.1V/div. 1ms/div. Test mode: During AGC 	⑩ CH1: TIN 0.1V/div. ③ CH2: MNT2 2V/div. 0.5ms/div. (DFCT) Test mode: The defect part passes 800µm 	⑯ CH1: ADFG 2V/div. ⑰ CH2: ADFM 0.5V/div. 50µs/div. Test mode: Play (Recordable MD) *2 

*2 Use the GND pin for grounding. < <27> GND >

⑱ CH1: MLOAD 5V/div. ⑲ CH2: MEJCT 5V/div. ⑳ CH3: CLMP 5V/div. ㉑ CH4: LOP 5V/div. 0.2ms/div. Normal mode: Load (Recordable MD) *2 	⑱ CH1: MLOAD 5V/div. ⑲ CH2: MEJCT 5V/div. ㉒ CH3: EJCT 5V/div. ㉓ CH4: LOM 5V/div. 0.2ms/div. Normal mode: Eject (Recordable MD) *2 	⑱ CH1: MLOAD 5V/div. ⑪ CH2: CIN 1V/div. ㉔ CH3: HOME 5V/div. ㉕ CH4: DISC 5V/div. 0.2ms/div. Normal mode: Load (Recordable MD) *2 
⑱ CH1: MLOAD 5V/div. ⑪ CH2: CIN 1V/div. ㉔ CH3: HOME 5V/div. ㉕ CH4: DISC 5V/div. 0.2ms/div. Normal mode: Eject (Recordable MD) *2 		

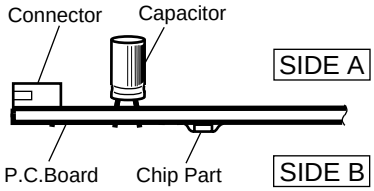

E SW1 PCB
D CN401
1 2 3 4 5 6 7 8 9 10 11 12 13
HOME
GND
LOAD
DISC
EJCT
SO+
SO-
LO+
LO+
LO-
LO-
GND
CLMP
M
LOADING MOTOR M2 CXB4181
M
SPDL MOTOR M3 CXM1158
S401 CLMP SW CSN1055
S404 DISC SW CSN1042
S405 LOAD SW CSN1052
S402 HOME SW CSN1052
S403 EJCT SW CSN1053
F SW2 PCB
PCB UNIT
Consists of
SW1 PCB
SW2 PCB

4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

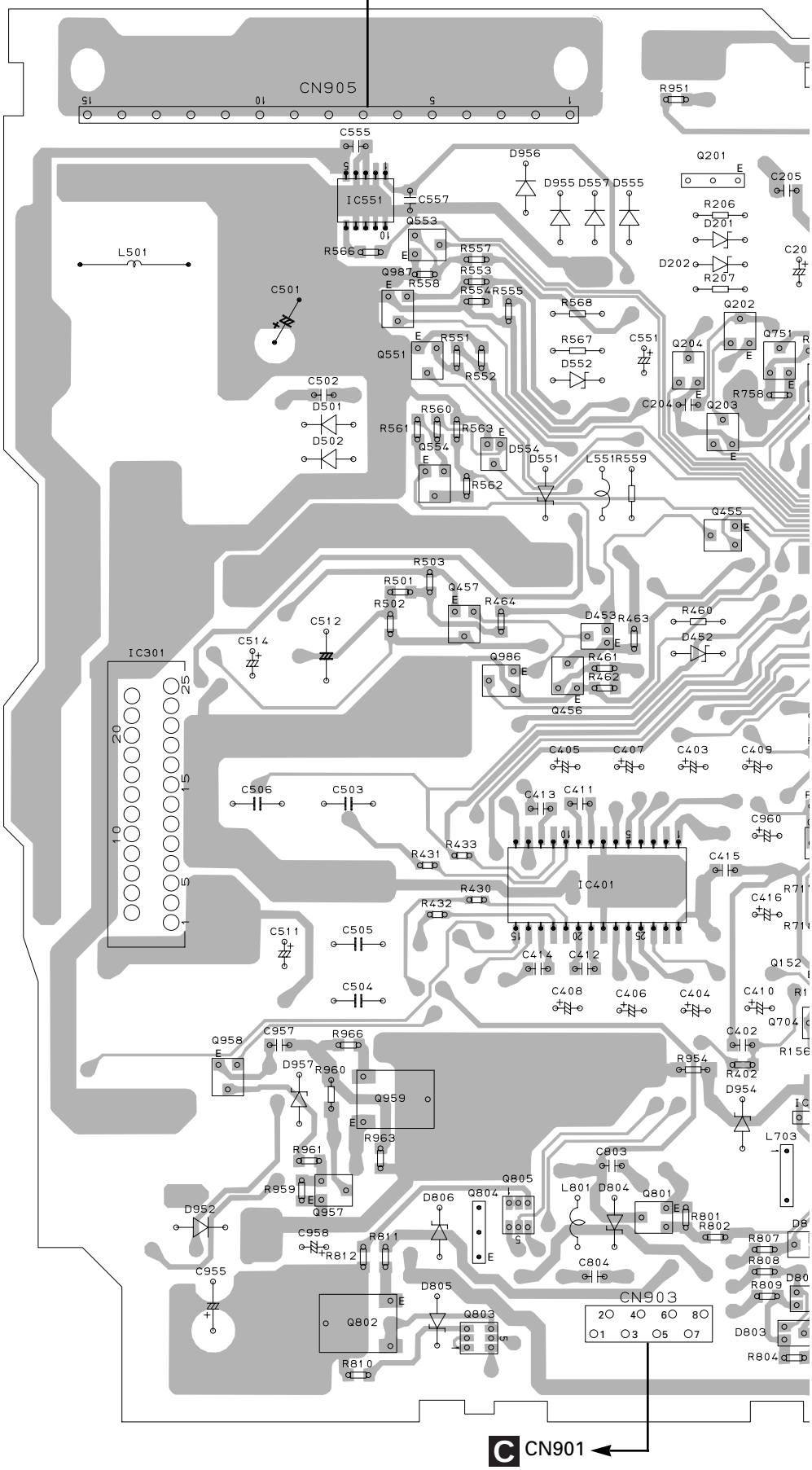
NOTE FOR PCB DIAGRAMS

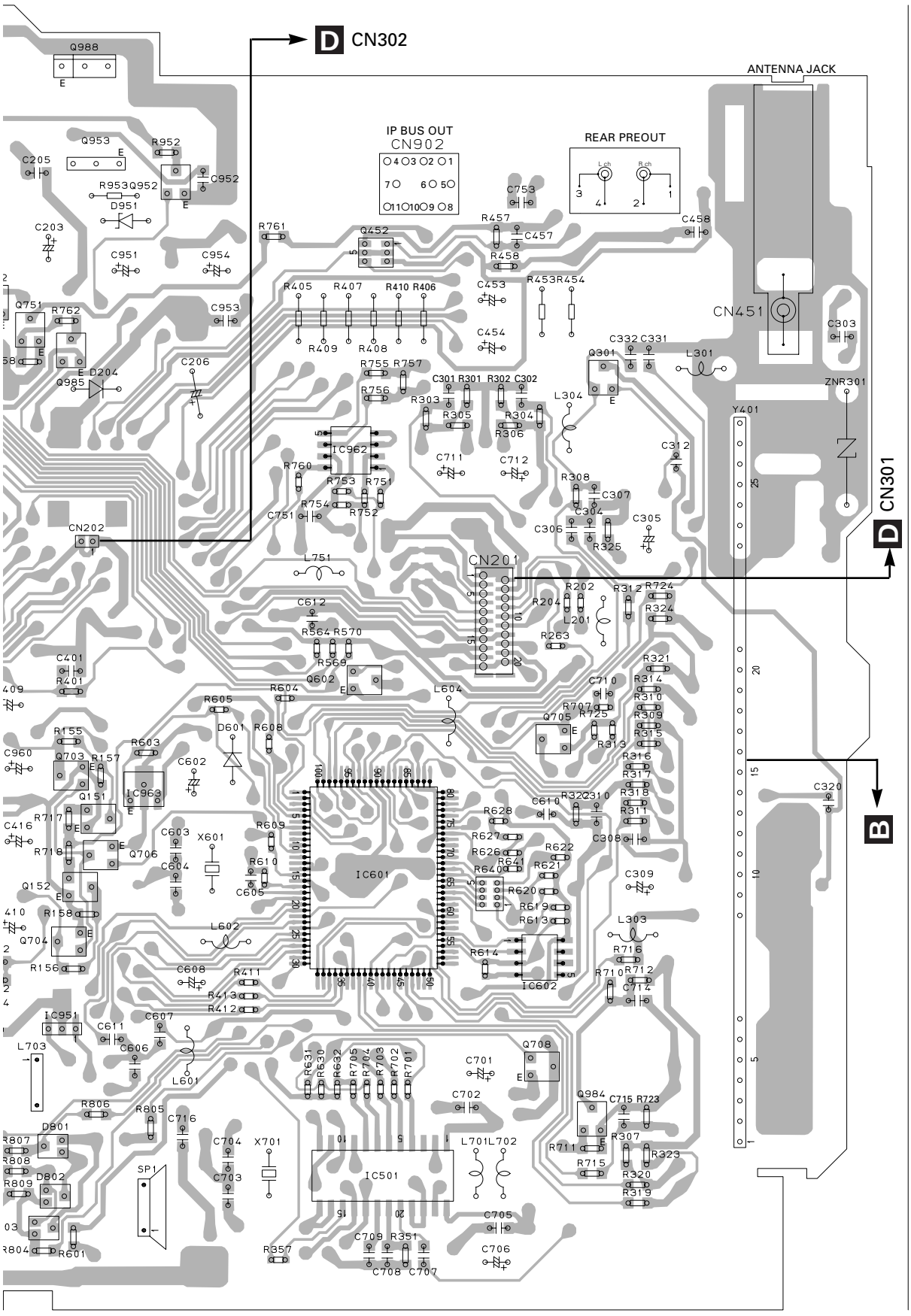
1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



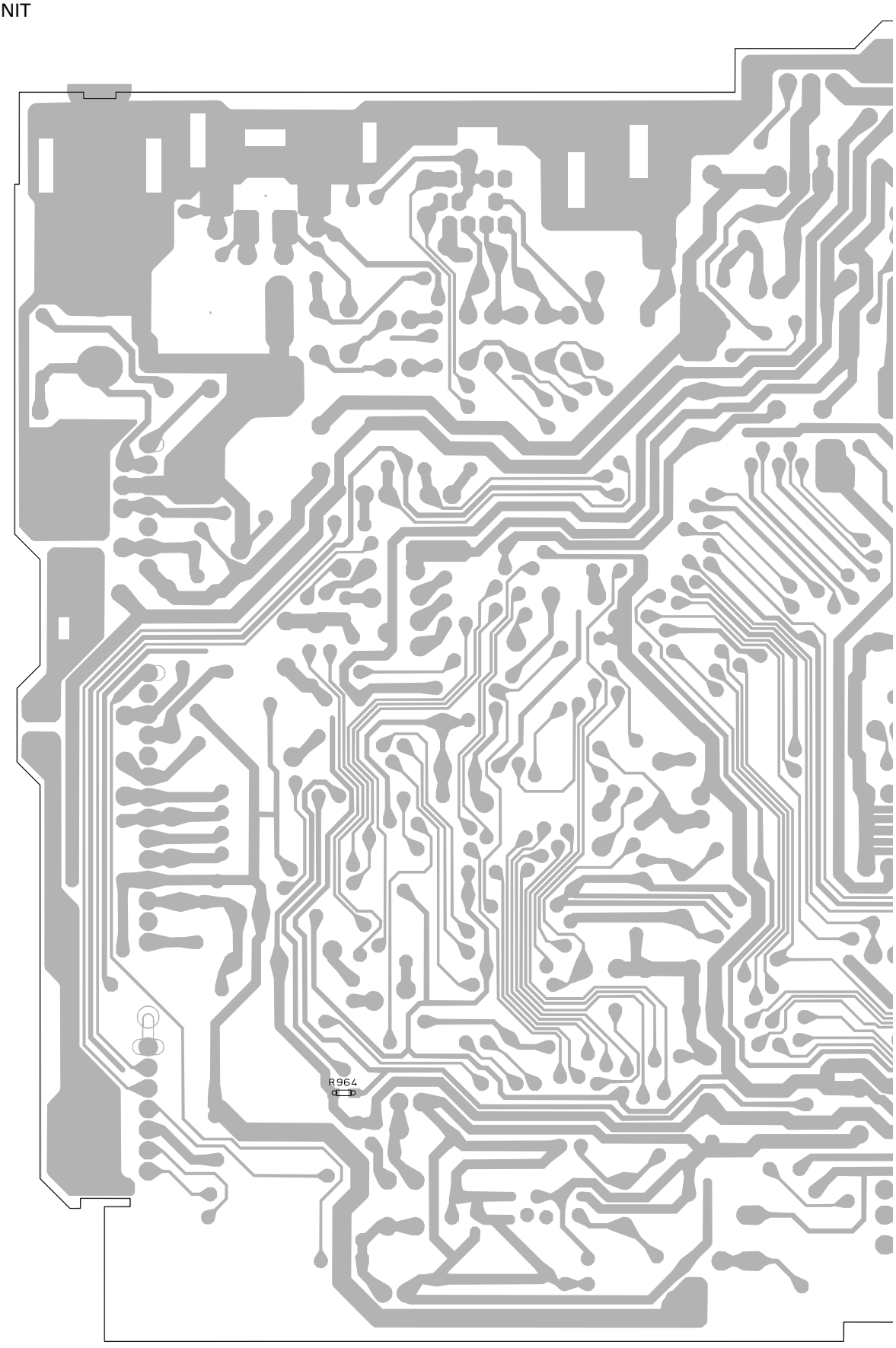
A TUNER AMP UNIT

CORD ASSY

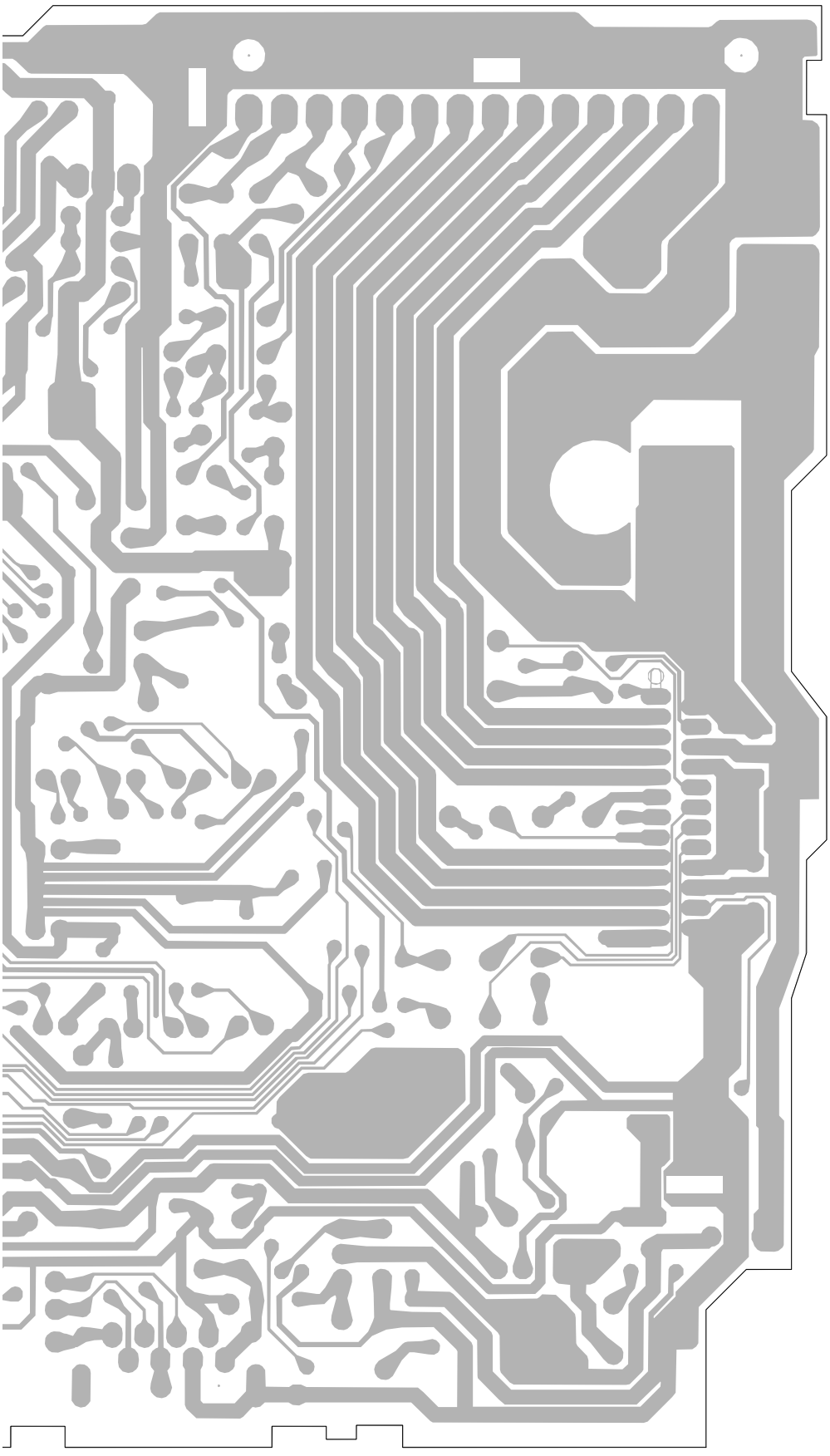



D CN302
ANTENNA JACK
IP BUS OUT
CN902
REAR PREOUT
CN451
D CN301
B
IC501
IC601
IC602
IC962
IC963
IC951
IC401
CN201
CN202
Y401
ZNR301
SP1
SIDE A
Q988
Q201 Q953
IC551 Q952
Q553
Q452
Q987
Q202
Q751
Q204 Q551
Q301
Q203
Q985
Q554
IC962
Q455
Q457
IC301 Q986
Q456
Q602
Q705
Q703
IC963 Q151
IC401
Q706
IC601
Q152
Q704
Q958
IC602
Q959 IC951
Q708
Q805
Q984 Q804 Q801
Q957
IC501
Q803
Q802

A TUNER AMP UNIT



SIDE B



A

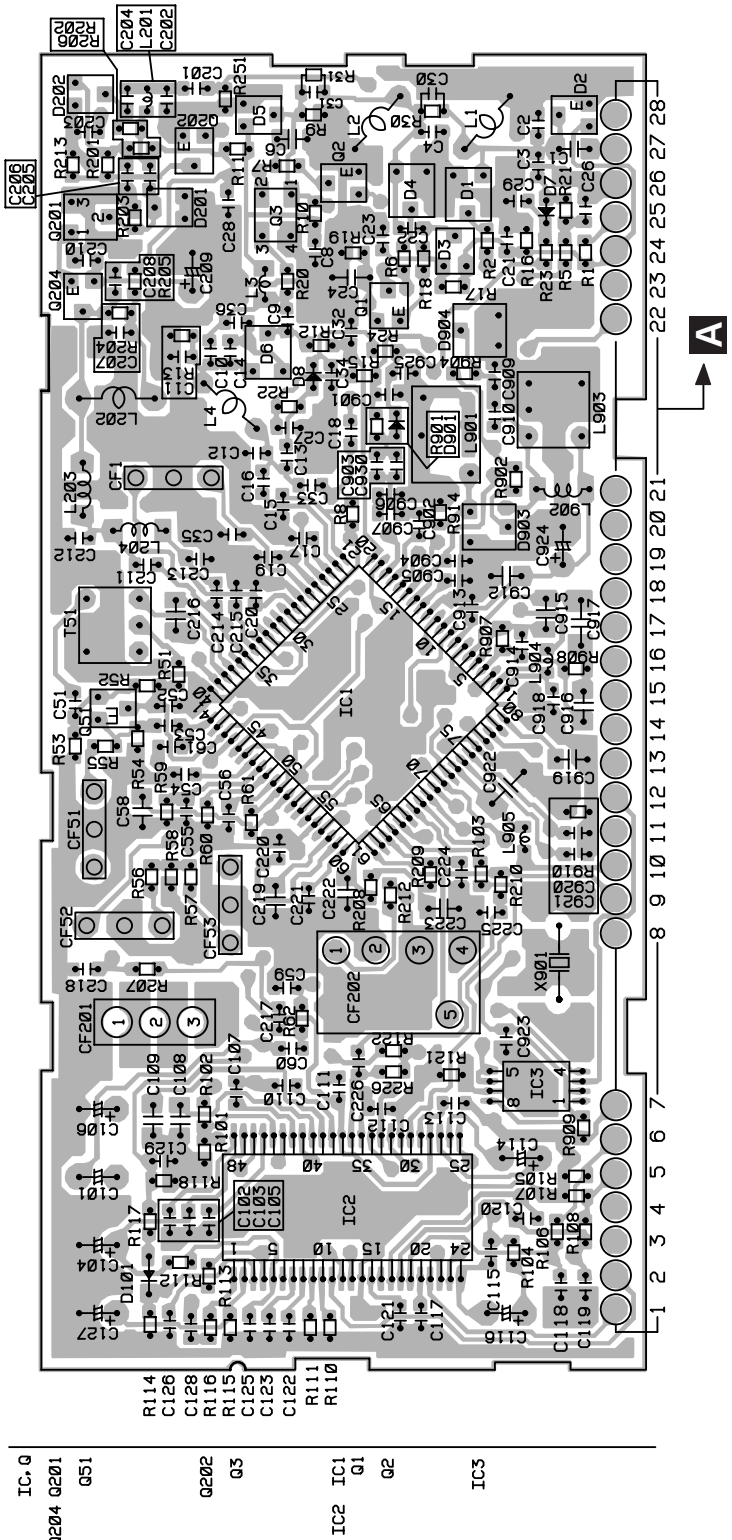
B

C

D

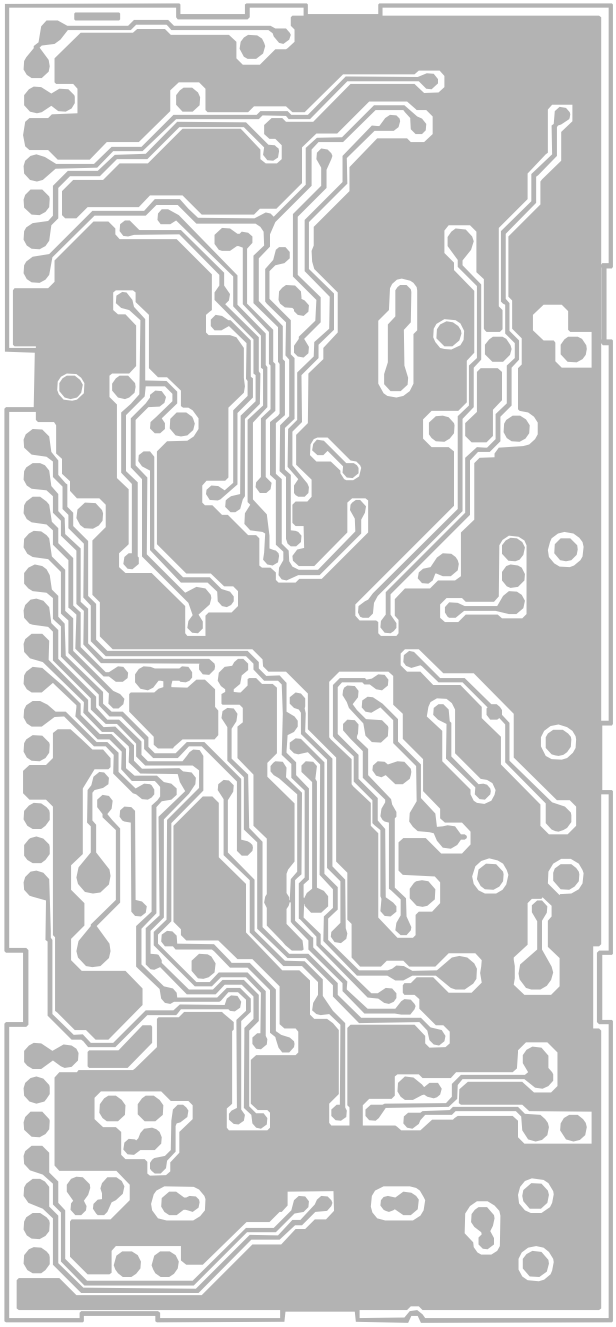
4.2 FM/AM TUNER UNIT

SIDE A



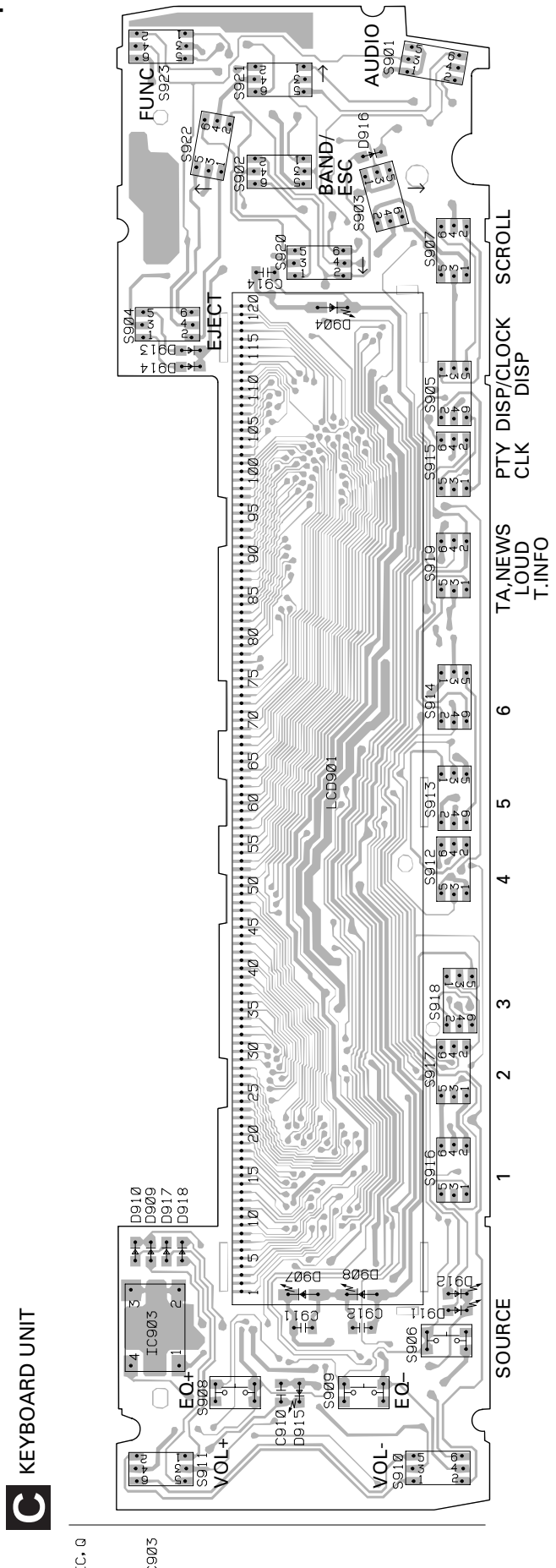
B FM/AM TUNER UNIT

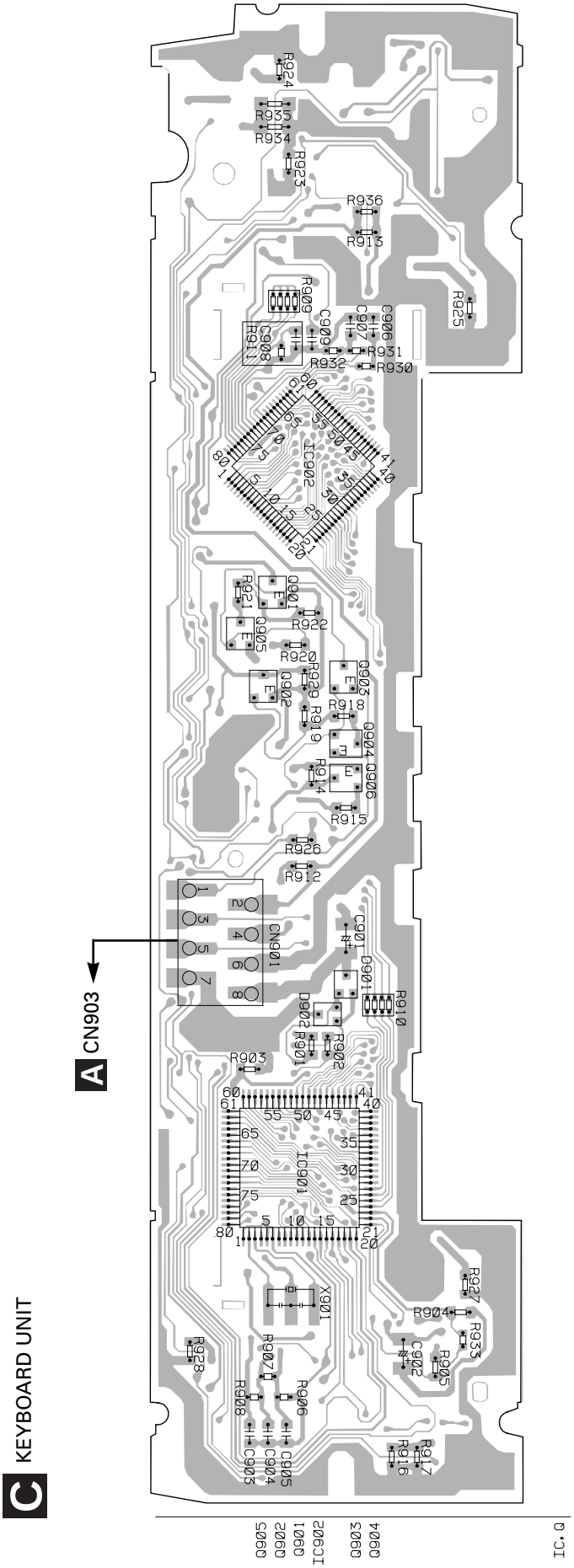
SIDE B



B FM/AM TUNER UNIT

4.3 KEYBOARD UNIT

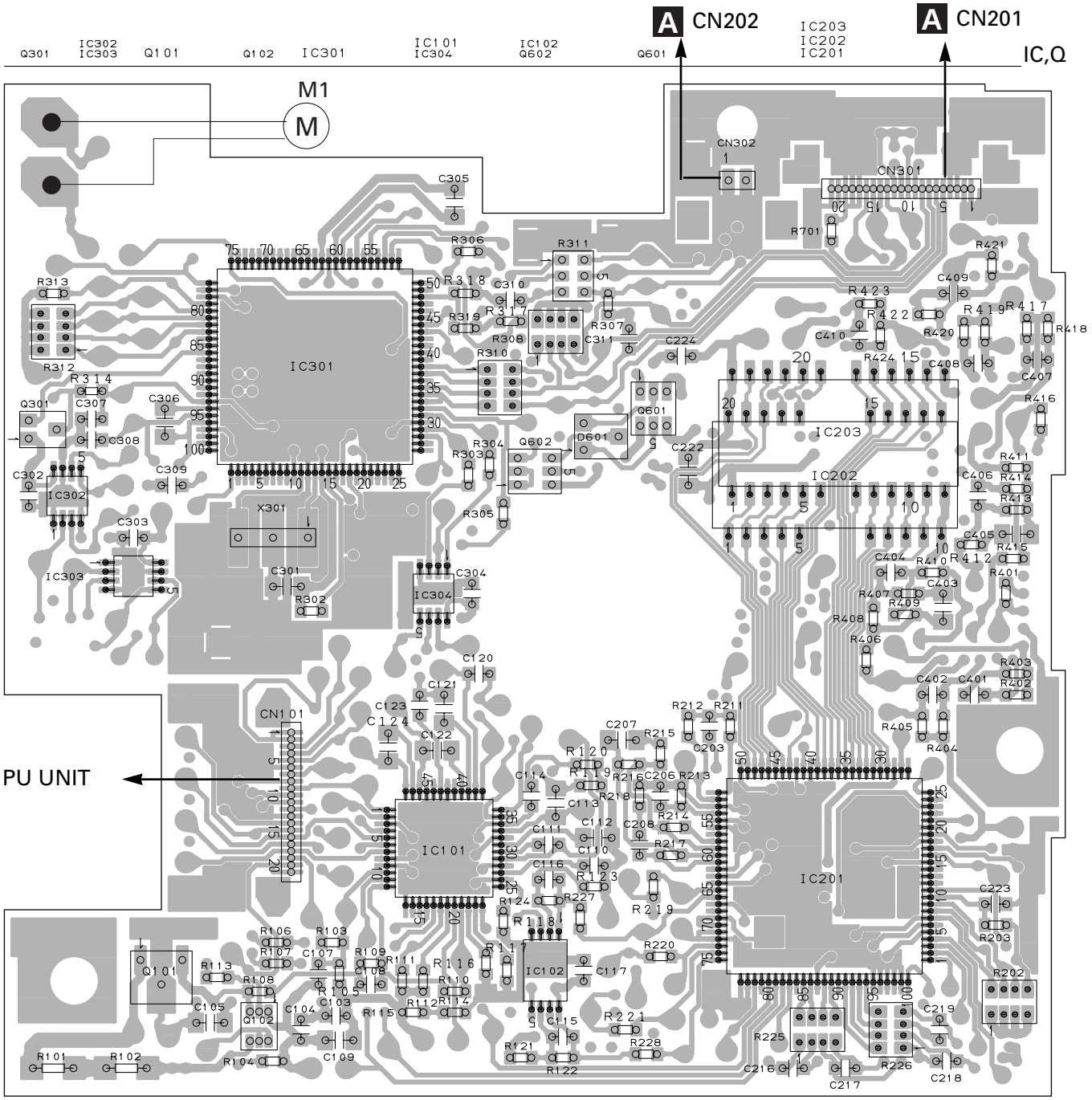



SIDE B
C KEYBOARD UNIT
A CN903
CN901
IC901
IC902
R924
R935
R934
R923
R936
R913
R925
R909
C908
R911
C906
C907
C909
R931
R932
R930
Q901
R921
Q905
R922
R920
R929
Q902
Q903
R918
R919
Q904
Q906
R914
R915
R926
R912
C901
D901
R910
D902
R901
R902
R903
X901
R927
R904
R933
R928
R907
R906
R905
C902
R908
C905
C904
C903
R916
R917
IC, Q
Q905
Q902
IC901
IC902
Q903
Q904
Q906

4.4 MD MECHANISM MODULE

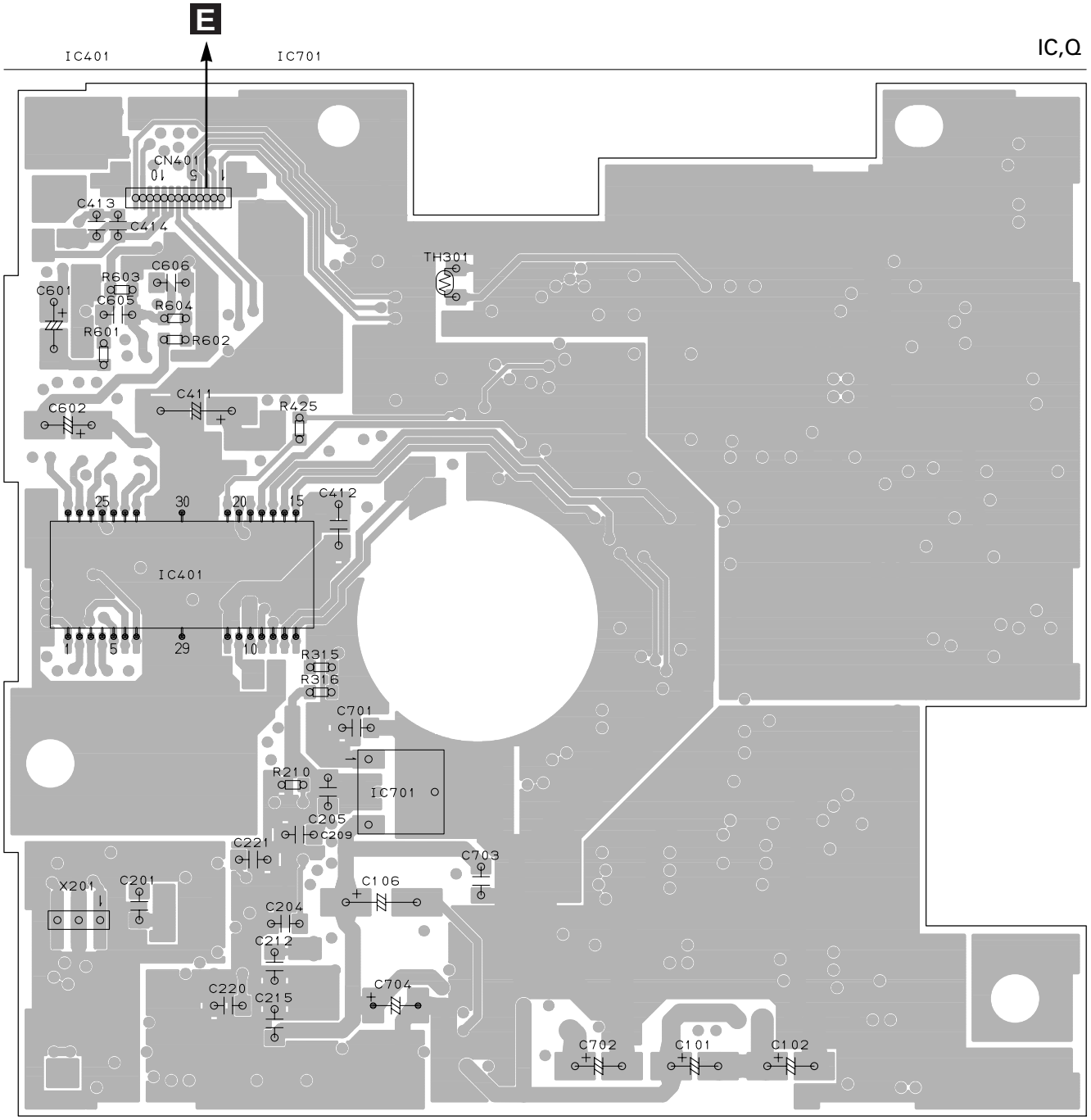
SIDE A

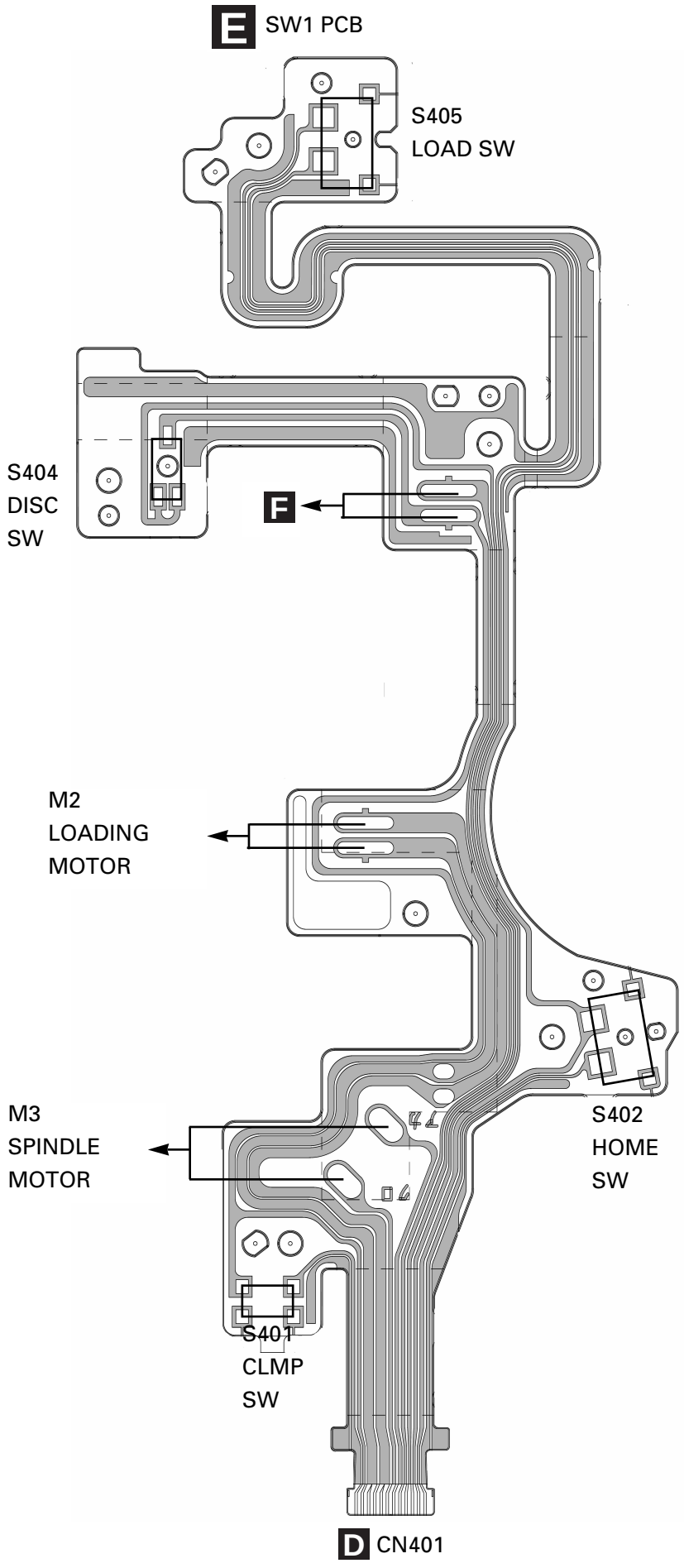
D MD UNIT



SIDE B

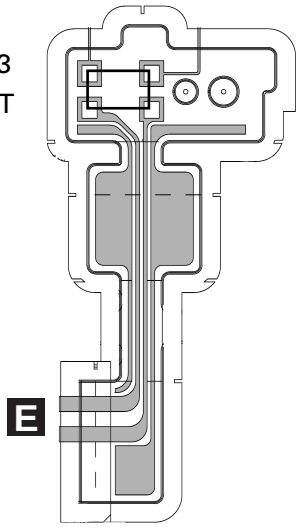
D MD UNIT




E SW1 PCB
S405
LOAD SW
S404
DISC
SW
F
M2
LOADING
MOTOR
M3
SPINDLE
MOTOR
S402
HOME
SW
S401
CLMP
SW
D CN401

F SW2 PCB

S403
EJCT
SW



5. ELECTRICAL PARTS LIST

NOTES:

● Parts whose parts numbers are omitted are subject to being not supplied.

● The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

A Unit Number : CWM6923(MEH-P5100R/EW)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	301	IC	PAL005A
IC	401	IC	PML003AM
IC	501	IC	PM4009A
IC	601	IC	PE5074A
IC	962	IC	CA0008AM
IC	963	IC	S-80834ANUP-EDY
Q	151	Transistor	2SD1757K
Q	152	Transistor	2SD1757K
Q	201	Transistor	2SD2396
Q	202	Transistor	DTA114EK
Q	203	Transistor	DTC124EK
Q	204	Transistor	DTC114EK
Q	301	Transistor	2SC2412K
Q	452	Transistor	IMH3A
Q	455	Transistor	DTC124EK
Q	456	Transistor	2SC2412K
Q	457	Transistor	DTC124EK
Q	551	Transistor	2SC2412K
Q	553	Transistor	2SC2412K
Q	554	Transistor	2SA1037K
Q	602	Transistor	DTA114EK
Q	703	Transistor	DTC143TK
Q	704	Transistor	DTC143TK
Q	705	Transistor	2SC2412K
Q	706	Transistor	DTA114EK
Q	708	Transistor	DTA124EK
Q	751	Transistor	2SA1037K
Q	801	Transistor	2SA1037K
Q	802	Transistor	2SD1760F5
Q	803	Transistor	IMD2A
Q	804	Transistor	2SC1740S
Q	805	Transistor	IMD2A
Q	952	Transistor	DTC114EK
Q	953	Transistor	2SD2396
Q	957	Transistor	2SA1037K
Q	958	Transistor	DTC124EK
Q	959	Transistor	2SD1760F5
Q	984	Transistor	2SC2412K
Q	985	Transistor	DTC114EK
Q	986	Transistor	DTA124EK
Q	987	Transistor	2SC2412K
Q	988	Transistor	2SB1238
D	201	Diode	HZS9L(B1)
D	202	Diode	HZS6L(B2)
D	204	Diode	RB100AVH
D	452	Diode	HZS9L(A2)
D	453	Diode	DAN202U
D	501	Diode	ERA15-02VH
D	502	Diode	ERA15-02VH
D	551	Diode	HZS7L(C2)

=====Circuit Symbol and No.		===Part Name	Part No.
D	552	Diode	HZS7L(A1)
D	554	Diode	DAN202U
D	601	Diode	1SS133
D	801	Diode Network	DA204U
D	802	Diode	DAP202U
D	803	Diode	DAN202U
D	804	Diode	HZS7L(A1)
D	805	Diode	HZS12L(A1)
D	806	Zener Diode	HZS11L(B2)
D	951	Diode	HZS9L(B3)
D	952	Diode	ERA15-02VH
D	955	Diode	ERA15-02VH
D	956	Diode	ERA15-02VH
D	957	Diode	HZS6L(B2)
ZNR	301		DSP-201M-A21F
L	201	Inductor	LAU100K
L	301	Ferri-Inductor	LAU4R7K
L	303	Ferri-Inductor	LAU2R2K
L	304	Ferri-Inductor	LAU1R0M
L	501	Choke Coil	CTH1171
L	551	Ferri-Inductor	LAU2R2K
L	601	Ferri-Inductor	LAU2R2K
L	701	Ferri-Inductor	LAU101K
L	702	Inductor	LAU100K
L	703	Filter	CTF1071
L	751	Ferri-Inductor	LAU2R2K
L	801	Ferri-Inductor	LAU2R2K
X	601	Radiator 12.58291MHz	CSS1402
X	701	Crystal Resonator 3.648MHz	CSS1447
SP	1	Buzzer	CPV1050
		FM/AM Tuner Unit	CWE1500

RESISTORS

R	155		RS1/10S222J
R	156		RS1/10S222J
R	157		RS1/10S223J
R	158		RS1/10S223J
R	202		RS1/16S221J
R	204		RS1/16S221J
R	206		RD1/4PU221J
R	207		RD1/4PU471J
R	263		RS1/16S102J
R	301		RS1/10S272J
R	302		RS1/10S272J
R	303		RS1/10S162J
R	304		RS1/10S162J
R	307		RS1/10S473J
R	308		RS1/10S222J
R	309		RS1/10S473J
R	310		RS1/10S472J
R	311		RS1/10S473J
R	312		RS1/10S222J
R	313		RS1/16S681J

=====Circuit Symbol and No.	===Part Name	Part No.
R 314		RS1/10S681J
R 315		RS1/10S681J
R 316		RS1/10S681J
R 317		RS1/10S103J
R 318		RS1/10S681J
R 319		RS1/10S681J
R 320		RS1/10S681J
R 321		RS1/10S473J
R 322		RS1/10S393J
R 323		RS1/10S473J
R 324		RS1/10S473J
R 325		RS1/10S0R0J
R 351		RS1/10S225J
R 357		RS1/16S102J
R 405		RD1/4PU181J
R 406		RD1/4PU181J
R 407		RD1/4PU223J
R 408		RD1/4PU223J
R 409		RD1/4PU102J
R 410		RD1/4PU102J
R 411		RS1/16S102J
R 412		RS1/16S102J
R 413		RS1/16S102J
R 430		RS1/16S101J
R 431		RS1/16S101J
R 432		RS1/16S101J
R 433		RS1/16S101J
R 453		RD1/4PU821J
R 454		RD1/4PU821J
R 457		RS1/10S223J
R 458		RS1/10S223J
R 460		RD1/4PU182J
R 461		RS1/10S103J
R 462		RS1/10S223J
R 463		RS1/10S103J
R 464		RS1/10S103J
R 501		RS1/10S221J
R 502		RS1/10S101J
R 503		RS1/10S153J
R 551		RS1/10S473J
R 552		RS1/10S473J
R 553		RS1/10S223J
R 554		RS1/10S473J
R 555		RS1/10S472J
R 557		RS1/10S103J
R 558		RS1/10S473J
R 559		RD1/4PU153J
R 560		RS1/10S472J
R 561		RS1/10S472J
R 562		RS1/10S102J
R 563		RS1/10S473J
R 564		RS1/16S104J
R 567		RD1/4PU102J
R 568		RD1/4PU102J
R 569		RS1/16S104J
R 570		RS1/16S104J
R 601		RS1/10S102J
R 603		RS1/10S822J
R 604		RS1/16S473J
R 605		RS1/16S102J
R 608		RS1/16S473J
R 609		RS1/16S102J
R 610		RS1/16S473J
R 613		RS1/16S104J
R 619		RS1/16S473J

=====Circuit Symbol and No.	===Part Name	Part No.
R 620		RS1/16S473J
R 621		RS1/16S473J
R 622		RS1/16S473J
R 626		RS1/16S473J
R 640		RA4C221J
R 641		RS1/16S221J
R 701		RS1/16S102J
R 702		RS1/16S102J
R 703		RS1/16S102J
R 704		RS1/16S681J
R 705		RS1/16S102J
R 707		RS1/16S224J
R 710		RS1/10S681J
R 711		RS1/10S153J
R 712		RS1/10S474J
R 715		RS1/10S681J
R 716		RS1/10S102J
R 717		RS1/10S224J
R 718		RS1/10S224J
R 723		RS1/10S473J
R 724		RS1/10S681J
R 725		RS1/16S473J
R 751		RS1/16S102J
R 752		RS1/16S102J
R 753		RS1/16S473J
R 754		RS1/16S473J
R 755		RS1/10S101J
R 756		RS1/10S101J
R 757		RS1/10S620J
R 758		RS1/10S223J
R 760		RS1/16S102J
R 761		RS1/10S222J
R 762		RS1/10S472J
R 801		RS1/10S223J
R 802		RS1/10S332J
R 804		RS1/10S222J
R 805		RS1/10S222J
R 806		RS1/10S222J
R 807		RS1/10S222J
R 808		RS1/10S222J
R 809		RS1/10S222J
R 810		RS1/10S391J
R 811		RS1/10S1R0J
R 812		RS1/10S471J
R 951		RS1/10S223J
R 952		RS1/10S272J
R 953		RD1/4PU102J
R 959		RS1/10S104J
R 960		RS1/8S222J
R 961		RS1/10S104J
R 963		RS1/10S103J
R 966		RS1/10S101J

CAPACITORS

C	203		CEAS101M10
C	204		CKSQYB473K16
C	205		CKSQYB103K50
C	206	1000µF/10V	CCH1184
C	301		CKSQYB123K25
C	302		CKSQYB123K25
C	303		CKSQYB103K50
C	304		CKSQYB103K50
C	305		CEAS220M10
C	308		CKSQYB473K16

=====Circuit Symbol and No.		===Part Name	Part No.
C	309		CEAS101M10
C	310		CKSQYB472K50
C	312		CCSRCH101J50
C	320		CCSRCH470J50
C	331		CKSQYB223K50
C	332		CKSQYB223K50
C	403		CEJA1R0M50
C	404		CEJA1R0M50
C	405		CEJA1R0M50
C	406		CEJA1R0M50
C	407		CEJA1R0M50
C	408		CEJA1R0M50
C	409		CEJAR22M50
C	410		CEJAR22M50
C	411		CKSQYB105K10
C	412		CKSQYB105K10
C	413		CKSQYB153K50
C	414		CKSQYB153K50
C	415		CKSQYB104K25
C	416		CEAS470M10
C	453		CEJA4R7M35
C	454		CEJA4R7M35
C	457		CCSQCH101K50
C	458		CCSQCH101K50
C	501	4700µF/16V	CCH1374
C	502		CKSQYB104K25
C	503		CFTNA224J50
C	504		CFTNA224J50
C	505		CFTNA224J50
C	506		CFTNA224J50
C	511		CEJA100M16
C	512		CFTNA105J50
C	514		CEAS330M10
C	551		CEJA100M16
C	602		CEJA2R2M50
C	603		CCSQCH200J50
C	604		CCSQCH200J50
C	605		CKSRYB104K16
C	606		CKSQYB102K50
C	607		CKSQYB102K50
C	608		CEJA4R7M35
C	610		CCSRCH470J50
C	611		CCSQCH101K50
C	612		CCSRCH101J50
C	701		CEJA220M6R3
C	702		CKSQYB104K25
C	703		CCSQCH270J50
C	704		CCSQCH270J50
C	705		CKSQYB104K25
C	706		CEJA220M6R3
C	707		CKSQYB471K50
C	708		CKSQYB471K50
C	709		CKSQYB104K25
C	710		CKSRYB223K25
C	711		CEJA1R0M50
C	712		CEJA1R0M50
C	714		CKSQYB472K50
C	715		CKSQYB182K50
C	716		CKSQYB102K50
C	751		CKSQYB102K50
C	753		CKSQYB104K50
C	803		CCSQCH101K50
C	804		CKSQYB104K25
C	951		CEAS101M10
C	952		CKSQYB103K50

=====Circuit Symbol and No.		===Part Name	Part No.
C	953		CKSQYB473K16
C	954		CEAS101M10
C	955	470µF/16V	CCH1183
C	957		CKSQYB103K50
C	958		CEAS470M10
C	960		CEJA100M16

A Unit Number : CWM6924(MEH-P5150/ES)
Unit Name : Tuner Amp Unit

MISCELLANEOUS

IC	301	IC	PAL005A
IC	401	IC	PML003AM
IC	601	IC	PE5075A
IC	962	IC	CA0008AM
IC	963	IC	S-80834ANUP-EDY
Q	201	Transistor	2SD2396
Q	202	Transistor	DTA114EK
Q	203	Transistor	DTC124EK
Q	204	Transistor	DTC114EK
Q	301	Transistor	2SC2412K
Q	452	Transistor	IMH3A
Q	455	Transistor	DTC124EK
Q	456	Transistor	2SC2412K
Q	457	Transistor	DTC124EK
Q	551	Transistor	2SC2412K
Q	553	Transistor	2SC2412K
Q	554	Transistor	2SA1037K
Q	602	Transistor	DTA114EK
Q	751	Transistor	2SA1037K
Q	801	Transistor	2SA1037K
Q	802	Transistor	2SD1760F5
Q	803	Transistor	IMD2A
Q	804	Transistor	2SC1740S
Q	805	Transistor	IMD2A
Q	952	Transistor	DTC114EK
Q	953	Transistor	2SD2396
Q	957	Transistor	2SA1037K
Q	958	Transistor	DTC124EK
Q	959	Transistor	2SD1760F5
Q	985	Transistor	DTC114EK
Q	986	Transistor	DTA124EK
Q	987	Transistor	2SC2412K
Q	988	Transistor	2SB1238
D	201	Diode	HZS9L(B1)
D	202	Diode	HZS6L(B2)
D	204	Diode	RB100AVH
D	452	Diode	HZS9L(A2)
D	453	Diode	DAN202U
D	501	Diode	ERA15-02VH
D	502	Diode	ERA15-02VH
D	551	Diode	HZS7L(C2)
D	552	Diode	HZS7L(A1)
D	554	Diode	DAN202U
D	601	Diode	1SS133
D	801	Diode Network	DA204U
D	802	Diode	DAP202U
D	803	Diode	DAN202U
D	804	Diode	HZS7L(A1)
D	805	Diode	HZS12L(A1)
D	806	Zener Diode	HZS11L(B2)
D	951	Diode	HZS9L(B3)
D	952	Diode	ERA15-02VH
D	955	Diode	ERA15-02VH
D	956	Diode	ERA15-02VH
D	957	Diode	HZS6L(B2)

Circuit Symbol and No.	Part Name	Part No.
ZNR 301		DSP-201M-A21F
L 201	Inductor	LAU100K
L 301	Ferri-Inductor	LAU4R7K
L 303	Ferri-Inductor	LAU2R2K
L 304	Ferri-Inductor	LAU1R0M
L 501	Choke Coil	CTH1171
L 551	Ferri-Inductor	LAU2R2K
L 601	Ferri-Inductor	LAU2R2K
L 751	Ferri-Inductor	LAU2R2K
L 801	Ferri-Inductor	LAU2R2K
X 601	Radiator 12.58291MHz	CSS1402
SP 1	Buzzer	CPV1050
	FM/AM Tuner Unit	CWE1501

RESISTORS

R 202		RS1/16S221J
R 204		RS1/16S221J
R 206		RD1/4PU221J
R 207		RD1/4PU471J
R 263		RS1/16S102J
R 301		RS1/10S162J
R 302		RS1/10S162J
R 303		RS1/10S272J
R 304		RS1/10S272J
R 305		RS1/10S0R0J
R 306		RS1/10S0R0J
R 307		RS1/10S473J
R 308		RS1/10S222J
R 309		RS1/10S473J
R 310		RS1/10S472J
R 311		RS1/10S473J
R 312		RS1/10S222J
R 314		RS1/10S681J
R 315		RS1/10S681J
R 316		RS1/10S681J
R 317		RS1/10S103J
R 318		RS1/10S681J
R 319		RS1/10S681J
R 320		RS1/10S681J
R 321		RS1/10S473J
R 322		RS1/10S393J
R 323		RS1/10S473J
R 405		RD1/4PU181J
R 406		RD1/4PU181J
R 407		RD1/4PU223J
R 408		RD1/4PU223J
R 409		RD1/4PU102J
R 410		RD1/4PU102J
R 411		RS1/16S102J
R 412		RS1/16S102J
R 413		RS1/16S102J
R 430		RS1/16S101J
R 431		RS1/16S101J
R 432		RS1/16S101J
R 433		RS1/16S101J
R 453		RD1/4PU821J
R 454		RD1/4PU821J
R 457		RS1/10S223J
R 458		RS1/10S223J
R 460		RD1/4PU182J
R 461		RS1/10S103J
R 462		RS1/10S223J
R 463		RS1/10S103J
R 464		RS1/10S103J
R 501		RS1/10S221J

R 502		RS1/10S101J
R 503		RS1/10S153J
R 551		RS1/10S473J
R 552		RS1/10S473J
R 553		RS1/10S223J
R 554		RS1/10S473J
R 555		RS1/10S472J
R 557		RS1/10S103J
R 558		RS1/10S473J
R 559		RD1/4PU153J
R 560		RS1/10S472J
R 561		RS1/10S472J
R 562		RS1/10S102J
R 563		RS1/10S473J
R 564		RS1/16S104J
R 567		RD1/4PU102J
R 568		RD1/4PU102J
R 569		RS1/16S104J
R 570		RS1/16S104J
R 601		RS1/10S102J
R 603		RS1/10S822J
R 604		RS1/16S473J
R 605		RS1/16S102J
R 608		RS1/16S473J
R 609		RS1/16S102J
R 610		RS1/16S473J
R 613		RS1/16S104J
R 619		RS1/16S473J
R 620		RS1/16S473J
R 621		RS1/16S473J
R 622		RS1/16S473J
R 626		RS1/16S473J
R 628		RS1/16S104J
R 630		RS1/16S473J
R 631		RS1/16S473J
R 632		RS1/16S473J
R 640		RA4C221J
R 641		RS1/16S221J
R 751		RS1/16S102J
R 752		RS1/16S102J
R 753		RS1/16S473J
R 754		RS1/16S473J
R 755		RS1/10S101J
R 756		RS1/10S101J
R 757		RS1/10S620J
R 758		RS1/10S223J
R 760		RS1/16S102J
R 761		RS1/10S222J
R 762		RS1/10S472J
R 801		RS1/10S223J
R 802		RS1/10S332J
R 804		RS1/10S222J
R 805		RS1/10S222J
R 806		RS1/10S222J
R 807		RS1/10S222J
R 808		RS1/10S222J
R 809		RS1/10S222J
R 810		RS1/10S391J
R 811		RS1/10S1R0J
R 812		RS1/10S471J
R 951		RS1/10S223J
R 952		RS1/10S272J
R 953		RD1/4PU102J
R 959		RS1/10S104J
R 960		RS1/8S222J
R 961		RS1/10S104J
R 963		RS1/10S103J
R 966		RS1/10S101J

=====Circuit Symbol and No.		===Part Name	Part No.
CAPACITORS			
C	203		CEAS101M10
C	204		CKSQYB473K16
C	205		CKSQYB103K50
C	206	1000µF/10V	CCH1184
C	301		CKSQYB183K25
C	302		CKSQYB183K25
C	303		CKSQYB103K50
C	304		CKSQYB103K50
C	305		CEAS220M10
C	306		CKSQYB223K50
C	308		CKSQYB473K16
C	309		CEAS101M10
C	310		CKSQYB472K50
C	312		CCSRCH101J50
C	320		CCSRCH470J50
C	332		CKSQYB223K50
C	403		CEJA1R0M50
C	404		CEJA1R0M50
C	405		CEJA1R0M50
C	406		CEJA1R0M50
C	407		CEJA1R0M50
C	408		CEJA1R0M50
C	409		CEJAR22M50
C	410		CEJAR22M50
C	411		CKSQYB105K10
C	412		CKSQYB105K10
C	413		CKSQYB153K50
C	414		CKSQYB153K50
C	415		CKSQYB104K25
C	416		CEAS470M10
C	453		CEJA4R7M35
C	454		CEJA4R7M35
C	457		CCSQCH101K50
C	458		CCSQCH101K50
C	501	4700µF/16V	CCH1374
C	502		CKSQYB104K25
C	503		CFTNA224J50
C	504		CFTNA224J50
C	505		CFTNA224J50
C	506		CFTNA224J50
C	511		CEJA100M16
C	512		CFTNA105J50
C	514		CEAS330M10
C	551		CEJA100M16
C	602		CEJA2R2M50
C	603		CCSQCH200J50
C	604		CCSQCH200J50
C	605		CKSRYB104K16
C	606		CKSQYB102K50
C	607		CKSQYB102K50
C	608		CEJA4R7M35
C	611		CCSQCH101K50
C	751		CKSQYB102K50
C	753		CKSQYB104K50
C	803		CCSQCH101K50
C	804		CKSQYB104K25
C	951		CEAS101M10
C	952		CKSQYB103K50
C	953		CKSQYB473K16
C	954		CEAS101M10
C	955	470µF/16V	CCH1183
C	957		CKSQYB103K50
C	958		CEAS470M10
C	960		CEJA100M16

=====Circuit Symbol and No.		===Part Name	Part No.

B Unit Number : CWE1500(MEH-P5100R/EW)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

IC	1	IC	PML002A
IC	2	IC	PM4008A
IC	3	IC	BR9010FV
Q	1	Transistor	2SC4081
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	51	Transistor	2SC4081
Q	201	FET	2SK932
Q	202	Transistor	DTC124EU
Q	204	Transistor	2SC4081
D	1	Diode	KV1410(23)
D	2	Diode	1SV248
D	4	Diode	KV1410(23)
D	6	Diode	KV1410(23)
D	101	Diode	1SS355
D	201	Diode	DAN217U
D	202	Diode	MA147
D	903	Diode	KV1410(23)
D	904	Diode	SVC253
L	1	Coil	CTC1155
L	2	Coil	CTC1155
L	3	Inductor	LCTB100K2125
L	4	Coil	CTC1155
L	201	Inductor	LCTB330K1608
L	202	Inductor	CTF1287
L	203	Inductor	LCTA121J3225
L	901	Coil	CTC1154
L	902	Inductor	LCTA3R3J3225
L	904	Inductor	LCTBR47K1608
L	905	Inductor	LCTBR47K1608
T	51	Coil	CTE1132
CF	51	Ceramic Filter	CTF1442
CF	52	Ceramic Filter	CTF1442
CF	53	Ceramic Filter	CTF1442
CF	202	Ceramic Filter	CTF1476
X	901	Crystal Resonator 10.250MHz	CSS1432

RESISTORS

R	1		RS1/16S153J
R	2		RS1/16S103J
R	6		RS1/16S103J
R	7		RS1/16S273J
R	8		RS1/16S473J
R	9		RS1/16S223J
R	10		RS1/16S473J
R	11		RS1/16S221J
R	12		RS1/16S103J
R	13		RS1/16S104J
R	16		RS1/16S223J
R	17		RS1/16S221J
R	18		RS1/16S221J
R	19		RS1/16S473J
R	20		RS1/16S470J
R	51		RS1/16S470J
R	52		RS1/16S103J
R	53		RS1/16S103J
R	54		RS1/16S331J
R	55		RS1/16S331J
R	56		RS1/16S560J
R	57		RS1/16S560J
R	58		RS1/16S102J
R	59		RS1/16S225J
R	60		RS1/16S133J

=====Circuit Symbol and No.	===Part Name	Part No.
R 61		RS1/16S433J
R 62		RS1/16S562J
R 101		RS1/16S333J
R 102		RS1/16S103J
R 103		RS1/16S333J
R 104		RS1/16S562J
R 106		RS1/16S0R0J
R 108		RS1/16S0R0J
R 110		RS1/16S154J
R 111		RS1/16S273J
R 112		RS1/16S223J
R 113		RS1/16S222J
R 114		RS1/16S333J
R 115		RS1/16S334J
R 116		RS1/16S473J
R 117		RS1/16S333J
R 118		RS1/16S223J
R 122		RS1/16S0R0J
R 202		RS1/16S472J
R 203		RS1/16S225J
R 204		RS1/16S102J
R 205		RS1/16S220J
R 206		RS1/16S471J
R 208		RS1/16S104J
R 209		RS1/16S104J
R 210		RS1/16S563J
R 213		RS1/16S223J
R 251		RS1/16S225J
R 902		RS1/16S103J
R 904		RS1/16S473J
R 907		RS1/16S103J
R 908		RS1/16S681J
R 909		RS1/16S473J
R 914		RS1/16S562J

CAPACITORS

=====Circuit Symbol and No.	===Part Name	Part No.
C 1		CCSQCH5R0C50
C 2		CCSRCH5R0C50
C 4		CCSRCJ3R0C50
C 6		CKSQYB105K10
C 8		CKSRYB222K50
C 10		CCSRCH220J50
C 11		CCSRCH150J50
C 12		CCSRCH8R0D50
C 14		CCSRCJ3R0C50
C 15		CKSRYB103K50
C 16		CKSRYB222K50
C 17		CKSRYB222K50
C 18		CCSRCJ3R0C50
C 19		CKSRYB103K50
C 20		CKSRYB103K50
C 21		CKSRYB103K50
C 24		CKSQYB334K16
C 31		CKSRYB222K50
C 32		CCSRCH470J50
C 35		CKSRYB103K50
C 51		CKSRYB103K50
C 52		CKSRYB473K16
C 53		CCSRCK2R0C50
C 54		CKSRYB103K50
C 55		CKSRYB104K16
C 56		CKSRYB104K16
C 58		CKSQYB224K16
C 59		CKSRYB223K25
C 60		CKSRYB104K16
C 101		CEALNP100M10
C 102		CCSRCH151J50
C 103		CKSRYB473K16
C 105		CKSRYB682K25
C 106		CEAL2R2M50
C 107		CKSRYB103K50
C 108		CKSQYB474K16
C 109		CKSQYB474K16
C 110		CKSRYB104K16
C 111		CKSRYB104K16
C 112		CKSRYB104K16
C 113		CKSRYB123K25
C 114		CEAL220M6R3
C 115		CKSRYB473K16
C 116		CEAL2R2M50
C 117		CKSRYB102K50
C 120		CKSRYB153K25
C 121		CKSRYB332K50
C 122		CKSRYB682K25
C 123		CKSRYB681K50
C 125		CKSRYB103K50
C 126		CKSRYB103K50
C 127		CEAL2R2M50
C 128		CKSRYB103K50
C 201		CCSRCH471J50
C 202		CCSRCH100D50
C 203		CKSRYB104K16
C 204		CKSRYB332K50
C 205		CKSRYB103K50
C 206		CKSRYB104K16
C 207		CKSRYB473K16
C 208		CCSRCH560J50
C 209		CEAL470M6R3
C 210		CKSRYB103K50
C 211		CKSRYB103K50
C 212		CCSRCH101J50
C 215		CKSRYB223K25
C 216		CKSQYB334K16
C 217		CKSRYB103K50
C 219		CKSQYB105K10
C 220		CKSRYB104K16
C 221		CKSRYB473K16
C 222		CKSQYB334K16
C 223		CKSQYB474K16
C 224		CKSRYB104K16
C 225		CKSRYB272K50
C 226		CKSRYB682K25
C 902		CCSRCH270J50
C 904		CKSRYB223K25
C 905		CKSRYB103K50
C 906		CCSRTH100D50
C 907		CCSRTH150J50
C 909		CCSRTH100D50
C 910		CKSRYB332K50
C 912		CKSQYB474K16
C 913		CKSRYB223K25
C 914		CKSRYB682K25
C 915		CKSQYB223K25
C 916		CKSQYB474K16
C 917		CKSYB475K10
C 918		CKSRYB223K25
C 919		CKSQYB225K10
C 920		CCSRCH270J50
C 921		CCSRCH270J50
C 922		CKSYB105K16
C 923		CKSRYB103K50

B Unit Number : CWE1501(MEH-P5150/ES)
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	1	IC	PML002A
IC	2	IC	PM4008A
IC	3	IC	BR9010FV
Q	1	Transistor	2SC4081
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	51	Transistor	2SC4081
Q	201	FET	2SK932
Q	202	Transistor	DTC124EU
Q	204	Transistor	2SC4081
D	1	Diode	KV1410(23)
D	2	Diode	1SV248
D	6	Diode	KV1410(23)
D	201	Diode	DAN217U
D	202	Diode	MA147
D	903	Diode	KV1410(23)
D	904	Diode	SVC253
L	1	Coil	CTC1155
L	3	Inductor	LCTB1R5K2125
L	4	Coil	CTC1155
L	201	Inductor	LCTB330K1608
L	202	Inductor	LFEA102J
L	203	Inductor	LCTA121J3225
L	901	Coil	CTC1154
L	902	Inductor	LCTA3R3J3225
L	904	Inductor	LCTBR47K1608
L	905	Inductor	LCTBR47K1608
T	51	Coil	CTE1132
CF	51	Ceramic Filter	CTF1442
CF	52	Ceramic Filter	CTF1442
CF	53	Ceramic Filter	CTF1442
CF	202	Ceramic Filter	CTF1476
X	901	Crystal Resonator 10.250MHz	CSS1432

RESISTORS

R	1		RS1/16S183J
R	2		RS1/16S103J
R	5		RS1/16S0R0J
R	7		RS1/16S273J
R	8		RS1/16S473J
R	9		RS1/16S223J
R	10		RS1/16S473J
R	11		RS1/16S221J
R	12		RS1/16S103J
R	13		RS1/16S104J
R	16		RS1/16S223J
R	17		RS1/16S221J
R	18		RS1/16S221J
R	19		RS1/16S473J
R	20		RS1/16S470J
R	31		RS1/16S0R0J
R	51		RS1/16S470J
R	52		RS1/16S103J
R	53		RS1/16S103J
R	54		RS1/16S331J
R	55		RS1/16S331J
R	56		RS1/16S560J
R	57		RS1/16S560J
R	58		RS1/16S102J
R	59		RS1/16S225J
R	60		RS1/16S133J
R	61		RS1/16S433J
R	101		RS1/16S333J
R	102		RS1/16S103J
R	103		RS1/16S333J

=====Circuit Symbol and No.		===Part Name	Part No.
R	104		RS1/16S562J
R	106		RS1/16S0R0J
R	108		RS1/16S0R0J
R	110		RS1/16S154J
R	111		RS1/16S273J
R	113		RS1/16S222J
R	114		RS1/16S333J
R	115		RS1/16S334J
R	116		RS1/16S473J
R	202		RS1/16S472J
R	203		RS1/16S225J
R	204		RS1/16S102J
R	205		RS1/16S220J
R	206		RS1/16S471J
R	208		RS1/16S104J
R	209		RS1/16S104J
R	210		RS1/16S563J
R	213		RS1/16S223J
R	251		RS1/16S225J
R	902		RS1/16S103J
R	904		RS1/16S473J
R	907		RS1/16S103J
R	908		RS1/16S681J
R	909		RS1/16S473J
R	914		RS1/16S562J

CAPACITORS

C	1		CCSQCH4R0C50
C	6		CKSQYB105K10
C	8		CKSRYB222K50
C	10		CCSRCH220J50
C	11		CCSRCH150J50
C	12		CCSRCH8R0D50
C	14		CCSRCJ3R0C50
C	15		CKSRYB103K50
C	16		CKSRYB222K50
C	17		CKSRYB222K50
C	18		CCSRCJ3R0C50
C	19		CKSRYB103K50
C	20		CKSRYB103K50
C	21		CKSRYB103K50
C	24		CKSQYB334K16
C	26		CKSRYB472K50
C	30		CCSRCH220J50
C	32		CCSRCH470J50
C	35		CKSRYB103K50
C	51		CKSRYB103K50
C	52		CKSRYB473K16
C	53		CCSRCK2R0C50
C	54		CKSRYB103K50
C	55		CKSRYB104K16
C	56		CKSRYB104K16
C	58		CKSQYB224K16
C	101		CEALNP100M10
C	102		CCSRCH151J50
C	103		CKSRYB473K16
C	105		CKSRYB682K25
C	106		CEALR68M50
C	107		CKSRYB103K50
C	108		CKSQYB474K16
C	109		CKSQYB474K16
C	110		CKSRYB104K16
C	111		CKSRYB104K16
C	112		CKSRYB104K16
C	113		CKSRYB123K25
C	114		CEAL220M6R3
C	115		CKSRYB473K16

Circuit Symbol and No.		Part Name	Part No.
C	116		CEAL2R2M50
C	117		CKSRYB102K50
C	120		CKSRYB183K25
C	121		CKSRYB332K50
C	122		CKSRYB562K25
C	123		CKSRYB681K50
C	125		CKSRYB103K50
C	126		CKSRYB103K50
C	127		CEAL2R2M50
C	128		CKSRYB103K50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB104K16
C	204		CKSRYB332K50
C	205		CKSRYB103K50
C	206		CKSRYB104K16
C	207		CKSRYB473K16
C	208		CCSRCH560J50
C	209		CEAL470M6R3
C	210		CKSRYB103K50
C	211		CKSRYB103K50
C	212		CCSRCH101J50
C	215		CKSRYB223K25
C	216		CKSQYB334K16
C	217		CKSRYB103K50
C	219		CKSQYB105K10
C	220		CKSRYB104K16
C	221		CKSRYB473K16
C	222		CKSQYB334K16
C	223		CKSQYB474K16
C	224		CKSRYB104K16
C	225		CKSRYB272K50
C	226		CKSRYB682K25
C	902		CCSRCH270J50
C	904		CKSRYB223K25
C	905		CKSRYB103K50
C	906		CCSRTH100D50
C	907		CCSRTH150J50
C	909		CCSRTH100D50
C	910		CKSRYB332K50
C	912		CKSQYB474K16
C	913		CKSRYB223K25
C	914		CKSRYB682K25
C	915		CKSQYB223K25
C	916		CKSQYB474K16
C	917		CKSYB475K10
C	918		CKSRYB223K25
C	919		CKSQYB225K10
C	920		CCSRCH270J50
C	921		CCSRCH270J50
C	922		CKSYB105K16
C	923		CKSRYB103K50

C Unit Number : CWM6929(MEH-P5100R/EW)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6277A
IC	902	IC	LC75874W
IC	903		RS-140
Q	901	Transistor	2SA1036K
Q	902	Transistor	2SA1036K
Q	903	Transistor	DTC114EK
Q	904	Transistor	DTC114EK
Q	905	Transistor	2SC2412K
Q	906	Transistor	2SC2412K
D	901	Diode	DAN202U

Circuit Symbol and No.		Part Name	Part No.
D	902	Diode	DAP202U
D	904	LED	NSSW440-9159
D	907	LED	NSSW440-9159
D	908	LED	NSSW440-9159
D	909	LED	CL170PGCD(AB)
D	910	LED	CL170DCD
D	911	LED	CL170PGCD(AB)
D	912	LED	CL170DCD
D	913	LED	CL170PGCD(AB)
D	914	LED	CL170DCD
D	915	LED	CL170UBX
D	916	LED	CL170DCD
D	917	LED	CL170DCD
D	918	LED	CL170PGCD(AB)
X	901	Radiator 5.00MHz	CSS1423
S	901		CSG1113
S	902		CSG1113
S	903		CSG1113
S	904		CSG1113
S	905		CSG1113
S	906		CSG1111
S	907		CSG1113
S	908		CSG1111
S	909		CSG1111
S	910		CSG1113
S	911		CSG1113
S	912		CSG1113
S	913		CSG1113
S	914		CSG1113
S	915		CSG1113
S	916		CSG1113
S	917		CSG1113
S	918		CSG1113
S	919		CSG1113
S	920		CSG1113
S	921		CSG1113
S	922		CSG1113
S	923		CSG1113
LCD	901	LCD	CAW1589

RESISTORS

R	901	RS1/10S222J
R	902	RS1/10S222J
R	903	RS1/10S103J
R	904	RS1/10S121J
R	905	RS1/10S2R2J
R	906	RS1/16S472J
R	907	RS1/16S472J
R	908	RS1/16S472J
R	909	RA4C103J
R	910	RA4C102J
R	911	RS1/16S473J
R	912	RS1/10S201J
R	913	RS1/10S751J
R	914	RS1/10S271J
R	915	RS1/10S472J
R	916	RS1/10S122J
R	917	RS1/10S122J
R	918	RS1/10S332J
R	919	RS1/10S223J
R	920	RS1/10S332J
R	921	RS1/10S332J
R	922	RS1/10S223J
R	923	RS1/10S161J
R	924	RS1/10S161J
R	925	RS1/10S161J

Circuit Symbol and No.		Part Name	Part No.
R	926		RS1/10S161J
R	927		RS1/10S161J
R	928		RS1/10S161J
R	934		RS1/8S122J
R	935		RS1/8S122J
R	936		RS1/10S751J

CAPACITORS

C	901		CSZSR100M6R3
C	902		CSZSR100M6R3
C	903		CKSQYB473K25
C	904		CKSQYB473K25
C	905		CKSQYB473K25
C	906		CKSQYB473K25
C	907		CKSQYB473K25
C	908		CKSQYB681K50
C	909		CKSQYB104K25
C	910		CKSQYB104K25
C	911		CKSQYB104K25
C	912		CKSQYB104K25
C	914		CKSQYB104K25

C Unit Number : CWM6930(MEH-P5150/ES)
Unit Name : Keyboard Unit

MISCELLANEOUS

IC	901	IC	PD6277A
IC	902	IC	LC75874W
Q	906	Transistor	2SC2412K
D	901	Diode	DAN202U
D	902	Diode	DAP202U
D	904	LED	NSSW440-9159
D	907	LED	NSSW440-9159
D	908	LED	NSSW440-9159
D	910	LED	CL170PGCD(AB)
D	912	LED	CL170PGCD(AB)
D	914	LED	CL170PGCD(AB)
D	915	LED	CL170UBX
D	916	LED	CL170PGCD(AB)
D	917	LED	CL170PGCD(AB)
X	901	Radiator 5.00MHz	CSS1423
S	901		CSG1112
S	902		CSG1112
S	903		CSG1112
S	904		CSG1112
S	905		CSG1112
S	906		CSG1111
S	907		CSG1112
S	908		CSG1111
S	909		CSG1111
S	910		CSG1112
S	911		CSG1112
S	912		CSG1112
S	913		CSG1112
S	914		CSG1112
S	915		CSG1112
S	916		CSG1112
S	917		CSG1112
S	918		CSG1112
S	919		CSG1112
S	920		CSG1112
S	921		CSG1112
S	922		CSG1112
S	923		CSG1112
LCD	901	LCD	CAW1590

Circuit Symbol and No.		Part Name	Part No.

RESISTORS

R	901		RS1/10S222J
R	902		RS1/10S222J
R	903		RS1/10S103J
R	906		RS1/16S472J
R	907		RS1/16S472J
R	908		RS1/16S472J
R	909		RA4C103J
R	910		RA4C102J
R	911		RS1/16S473J
R	912		RS1/10S201J
R	913		RS1/10S751J
R	914		RS1/10S271J
R	915		RS1/10S472J
R	916		RS1/10S122J
R	917		RS1/10S122J
R	923		RS1/10S161J
R	924		RS1/10S161J
R	925		RS1/10S161J
R	926		RS1/10S161J
R	927		RS1/10S161J
R	928		RS1/10S161J
R	929		RS1/10S0R0J
R	933		RS1/16S104J
R	934		RS1/8S122J
R	935		RS1/8S122J
R	936		RS1/10S751J

CAPACITORS

C	901		CSZSR100M6R3
C	903		CKSQYB473K25
C	904		CKSQYB473K25
C	905		CKSQYB473K25
C	906		CKSQYB473K25
C	907		CKSQYB473K25
C	908		CKSQYB681K50
C	909		CKSQYB104K25
C	910		CKSQYB104K25
C	911		CKSQYB104K25
C	912		CKSQYB104K25
C	914		CKSQYB104K25

D Unit Number : CWX2438
Unit Name : MD Unit(MD-4)

MISCELLANEOUS

IC	101	IC	CXA2523AR
IC	102	IC	NJM2115V
IC	201	IC	CXD2655BR
IC	202	IC	MSM51V4400DP-70TK
IC	301	IC	PD5541B
IC	302	IC	TC7WT125FU
IC	303	IC	TC7WT125FU
IC	304	IC	TC7WH34FU
IC	401	IC	BA5985FM
IC	701	IC	UPC2933T
Q	101	Transistor	2SB1132
Q	102	Transistor	UMD2N
Q	301	Transistor	DTA144EU
Q	601	Transistor	FMG13
Q	602	Transistor	IMD3A
D	601	Chip Diode	MA151WA
TH	301	Thermistor	CCX1037
X	201	Ceramic Resonator 22.579MHz	CSS1478
X	301	Ceramic Resonator 10.00MHz	CSS1476

=====Circuit Symbol and No.	===Part Name	Part No.
RESISTORS		
R 101		RS1/8S100J
R 102		RS1/8S0R0J
R 103		RS1/16S473J
R 104		RS1/16S0R0J
R 106		RS1/16S0R0J
R 107		RS1/16S0R0J
R 108		RS1/16S681J
R 109		RS1/16S474J
R 110		RS1/16S682J
R 111		RS1/16S103J
R 112		RS1/16S103J
R 113		RS1/16S681J
R 114		RS1/16S133J
R 115		RS1/16S913J
R 116		RS1/16S133J
R 117		RS1/16S133J
R 118		RS1/16S563J
R 119		RS1/16S242J
R 120		RS1/16S512J
R 121		RS1/16S103J
R 122		RS1/16S103J
R 123		RS1/16S242J
R 124		RS1/16S473J
R 202		RAB4C104J
R 203		RS1/16S221J
R 210		RS1/16S0R0J
R 211		RS1/16S103J
R 212		RS1/16S104J
R 213		RS1/16S684J
R 214		RS1/16S332J
R 215		RS1/16S102J
R 216		RS1/16S105J
R 217		RS1/16S102J
R 218		RS1/16S151J
R 219		RS1/16S101J
R 220		RS1/16S101J
R 221		RS1/16S101J
R 225		RAB4C183J
R 226		RAB4C123J
R 227		RS1/16S561J
R 228		RS1/16S561J
R 302		RS1/16S104J
R 303		RS1/16S221J
R 304		RS1/16S221J
R 305		RS1/16S221J
R 306		RS1/16S104J
R 307		RS1/16S104J
R 308		RAB4C104J
R 310		RAB4C681J
R 311		RA3C681J
R 312		RAB4C104J
R 313		RS1/16S104J
R 314		RN1/16SE9101D
R 315		RS1/16S683J
R 316		RS1/16S393J
R 317		RS1/16S473J
R 401		RS1/16S221J
R 402		RS1/16S222J
R 403		RS1/16S183J
R 404		RS1/16S183J
R 405		RS1/16S222J
R 406		RS1/16S0R0J
R 407		RS1/16S101J
R 408		RS1/16S222J
R 409		RS1/16S183J
R 410		RS1/16S0R0J
R 411		RS1/16S0R0J
R 412		RS1/16S101J
R 413		RS1/16S222J
R 414		RS1/16S183J
R 415		RS1/16S0R0J
R 416		RS1/16S221J
R 417		RS1/16S222J
R 418		RS1/16S183J
R 419		RS1/16S222J
R 420		RS1/16S183J
R 421		RS1/16S752J
R 422		RS1/16S183J
R 423		RS1/16S752J
R 424		RS1/16S183J
R 425		RS1/16S221J
R 601		RS1/16S102J
R 602		RS1/16S102J
R 603		RS1/16S223J
R 604		RS1/16S223J-
CAPACITORS		
C 101		CEVL100M16
C 102		CEVL100M16
C 103		CKSRYB153K25
C 104		CKSRYB153K25
C 105		CKSQYB104K16
C 106		CEVL101M6R3
C 107		CCSRCH220J50
C 108		CKSRYB102K50
C 109		CKSQYB105K16
C 110		CKSRYB683K16
C 111		CKSRYB472K50
C 112		CKSQYB105K16
C 113		CKSQYB104K16
C 114		CKSRYB393K16
C 115		CKSRYB102K50
C 116		CKSRYB102K50
C 117		CKSRYB103K25
C 120		CKSRYB472K50
C 121		CKSQYB224K16
C 122		CKSQYB223K25
C 123		CKSRYB103K25
C 124		CKSQYB473K16
C 201		CKSQYB104K16
C 203		CKSRYB103K25
C 204		CKSQYB474K16
C 205		CKSQYB105K16
C 206		CKSRYB471K50
C 207		CKSQYB474K16
C 208		CKSRYB153K25
C 209		CKSQYB104K16
C 212		CKSQYB104K16
C 215		CKSQYB104K16
C 216		CKSRYB681K50
C 217		CKSRYB681K50
C 218		CKSRYB272K50
C 219		CKSRYB272K50
C 220		CKSQYB104K16
C 221		CKSQYB104K16
C 222		CKSQYB104K16
C 223		CKSRYB104K16
C 301		CKSQYB104K16
C 302		CKSRYB103K25
C 303		CKSRYB103K25
C 304		CKSRYB103K25
C 305		CKSQYB104K16

=====Circuit Symbol and No.		===Part Name	Part No.
C	306		CKSQYB104K16
C	307		CKSRYB102K50
C	308		CKSRYB102K50
C	311		CKSRYB221K50
C	401		CKSRYB681K50
C	402		CKSRYB681K50
C	403		CKSQYB334K16
C	404		CKSRYB103K25
C	405		CKSQYB334K16
C	406		CKSRYB103K25
C	407		CCSRCH151J50
C	408		CCSRCH151J50
C	409		CCSRCH151J50
C	410		CCSRCH151J50
C	411		CEVL470M16
C	412		CKSYB684K16
C	601		CEVL4R7M35
C	602		CEVL4R7M35
C	605		CCSQSL152J50
C	606		CCSQSL152J50
C	701		CKSQYB334K16
C	702		CEVL100M16
C	703		CKSQYB104K16
C	704	22µF/6.3V	CCH1350

PCB Unit
Consists of SW1 PCB SW2 PCB

E F Unit Number :
Unit Name : PCB Unit

S	401	Spring Switch(CLMP SW)	CSN1055
S	402	Spring Switch(HOME SW)	CSN1052
S	403	Spring Switch(EJCT SW)	CSN1053
S	404	Spring Switch(DISC SW)	CSN1042
S	405	Spring Switch(LOAD SW)	CSN1052

Miscellaneous Parts List

		PU Unit	CGY3000
M	1	Motor Unit(-C)(CRG)	CXB4054
M	2	Motor Unit(-B)(Loading)	CXB4181
M	3	Motor(SPDL)	CXM1158

6. ADJUSTMENT

6.1 ADJUSTING THE MD SECTION

1) Precautions

Since the single voltage (3.3V) system is being employed for the regulator of this equipment, the reference potential for the servo signals becomes Vc (1.65V, approximately).

In this manual, the Vc reference potential will be indicated as **Vc (e.g. 1.5Vc) and the reference GND will be indicated as **V.

If connection errors of the Vc and the GND are made while product adjustment is being made, it becomes unfeasible to measure the electric potential correctly and, moreover, the servo can make malfunctioning to apply severe impacts to the pick up. Consequently, to prevent occurrence of such an error, observe the followings.

1. Do not make connection errors of the Vc and the GND when connecting the negative side of the probe of the instrument.
   For example, do not connect the Vc to the negative side of the probe ch1 nor connect the GND to the negative side of the probe ch2 of the oscilloscope.
   Also, since the measuring instrument proper usually carries the same potential as that of the negative side of the probe, in many cases, set the measuring instrument proper to a floated state.
2. When installing and removing the filters and wires necessary for the measurement work, always turn "OFF" the regulator.
3. Since various protection means of the software are not valid under the test mode, be careful not to apply mechanical shock and electric shocks while adjustment work is in progress.
4. This equipment works to discriminate the discs namely, high reflection discs (premaster) and low reflection discs (recordable), when the discrimination SW is duly operated.
   (High reflection Disc=0V and low reflection Disc=5V with the CN401 / 4-pin / Contact Pin Name: DISC as is shown in the circuit diagram)
   Disc discrimination can be confirmed by the following indications appearing under the TEST MD mode, after completing floating of the disc under the TEST mode.
   In case of high refection: 02200000 In case of low refection: 01100000 (The second and third digits counting from the Left-hand side will become "2" or "1".)
   Unless disc discrimination is made properly, accurate automatic adjustment and grating adjustment cannot be expected and always confirm the above when starting up the TEST mode.

2) LD protection for the pickup

Unlike MD pickups, the MD pickups being used for this equipment are not equipped with the LD protection short pin but, instead, a shorting land by soldering is being provided.

When removing, make a shorting by soldering before removing the flex.

To protect the flex., limit the time to apply the soldering iron to a short time. Reference application time: within 2 seconds.

3) Regarding the TEST mode

This mode should be used when adjusting and inspecting the MD mechanism module of this equipment.

1. When entering into the TEST mode:
   Pressing and holding the "4" key and "6" key simultaneously, turn ON the "B.u" and "Acc" at the same time.
   Select the "MD Source" using the SOURCE key. (Keep the Disc inserted.)
2. When canceling the TEST mode:
   Turn OFF the "B.u" and "Acc".
3. When turning ON the power supply
   Press the key "BAND" to start up the 3.3v for the MD regulator.
   Meanwhile, pay attention to the fact that the microcomputer supply power Vdd5v starts up when the "B.u" and "Acc" are turned on.
4. Measuring LD electric current
   When measuring the voltage between 3VD and VI using a multimeter or the like, be sure to connect the measuring instrument on the power supply off before turning on the power supply.
   If you make contact between 3VD and VI using a clip or the like after turning on the power supply, the noise could cause LD failure.

● **Grating adjustment**

1) Regarding the TEST Disc

When performing grating adjustment and grating confirmations, use the high reflection Disc (MMD-110).
When confirming the operation state and automatic adjustment state, us the high reflection Disc (MMD-110) and low reflection Disc (MMD-212), respectively.

2) When the pickup unit or the spindle motor has been replaced, be sure to perform the grading adjustment and grating confirmation.

3) Grating adjustment

Purpose: To check and confirm if the grating is properly adjusted after the pickup unit or the spindle motor has been replaced.
Observe the waveforms of "E" and "F" after having been passed through the iv amplifier L.P.F. using an oscilloscope (X-Y ch) to check if the phase difference is within 30 deg. and, otherwise, to adjust it within the range.
Failure phenomena when the grating is being deviated substantially:
Tracking close becomes unworkable, tracking search becomes inoperable or tracking search takes too long time.
Checking method
Measuring instruments: Oscilloscope , GGD1223(21Pin cord) and GGF1370(MD adjustment PCB)
Measuring points: E. F and Vc
TEST Disc: MMD-110 (TEAC), TEST mode Focus closed state (Tracking open)

4) Confirmation procedures

1. Select the "MD Source" to inter into the TEST MD mode. Use the MMD-110 as the test Disc. An indication reading "POWER ON" will appear.
2. Make the key operation of 2 -> 2 -> 1 -> 1 to bring into the focus close state. The indication will be "2221 0000" and the pickup will be located at the inner-most position.

Key operation	Indications	Statuses
BAND	"POWER ON"	MD circuit 3.3v power "ON"
2	"0220 0000"	Disc discrimination (High reflection)
2	"0221 0000"	Offset adjustment
1	"1221 0000"	LD on
1	"2221 0000"	Focus close

<When the pickup has been replaced>

Re-adjust when the grating deviation exceeds 30 deg. (Refer to the drawing indicated below.)

1. Slightly loosen the screws <2> and <3> for the spindle motor (do not touch the screw <1>) and, inserting a minus screwdriver head into the groove, turn it slowly checking the Lissajous's figure.
   When doing this, be careful not to insert the screwdriver head too deeply since it may hit the Disc surface.
2. After finishing the adjustment, tighten the screws <2> and <3> in given order.
3. Check the Lissajous's figure once again.

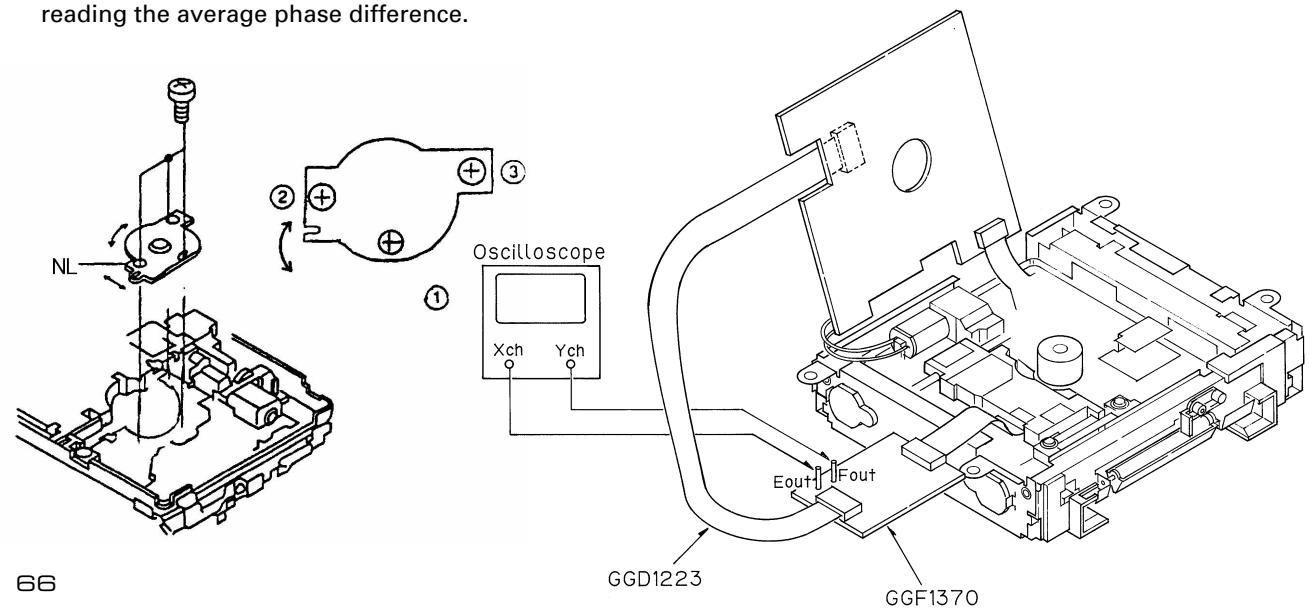
* While making this adjustment, if the waveform disappears by some sock, repeat the key operation in the order of 1 -> 1 (starting from the "LD on" process) and the waveform appears again.
If the above key operation procedures do not work to restore the state, press the key BAND (POWER OFF) -> press the key BAND (POWER ON) to enter into the TEST MD mode once again before repeating the aforementioned procedures once again in given sequence.

<When the spindle motor has been replaced>

Re-adjust when the grating deviation exceeds 30 deg. (Refer to the drawing indicated below.)

1. Loosen the screws <1>, <2> and <3> for the spindle motor in given order.
2. Re-adjust when the grating deviation exceeds 30 deg.
3. Follow the aforementioned procedures <when the pickup has been replaced> starting from the procedure according to Paragraph 1 in given sequence.

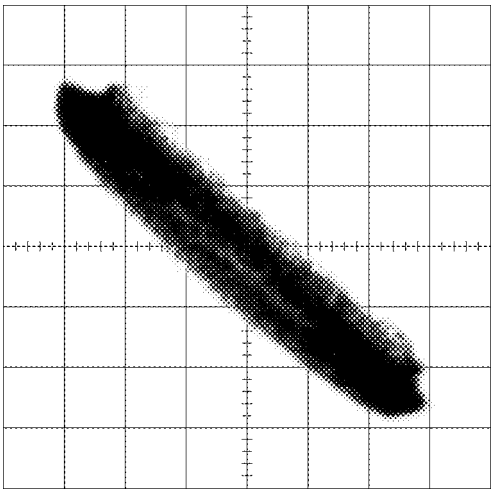
* When the eccentricity of the disc is excessive, the grating waveform starts swinging. (It differs depending on the rotation cycle.)
When it is difficult to make the adjustment, re-load the disc to decrease the eccentricity to lessen the swing before reading the average phase difference.



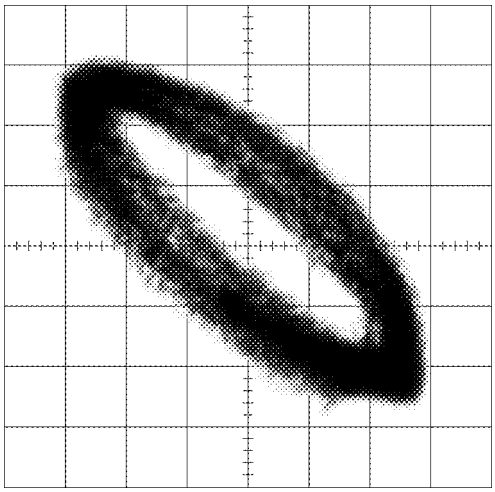
Grating waveform

Ech → Xch 50mV/div, AC
Fch → Ych 50mV/div, AC

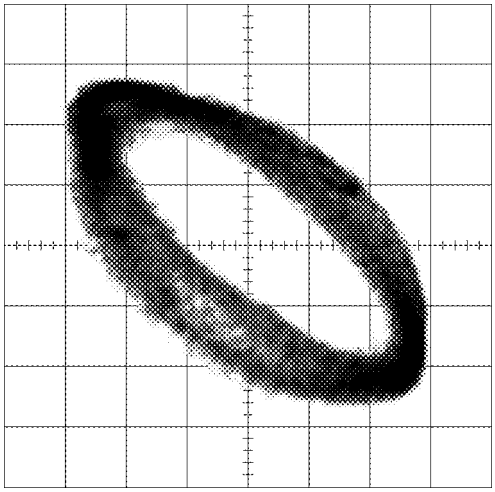
0°



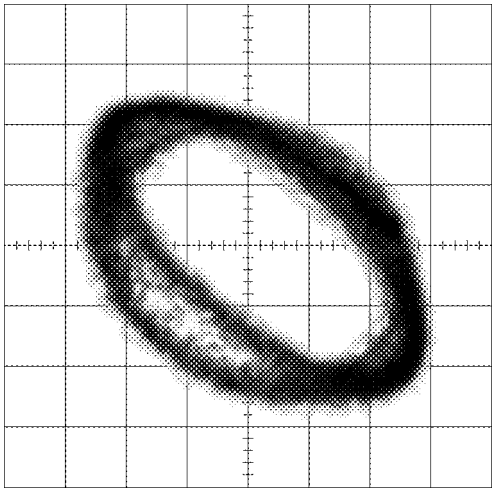
30°



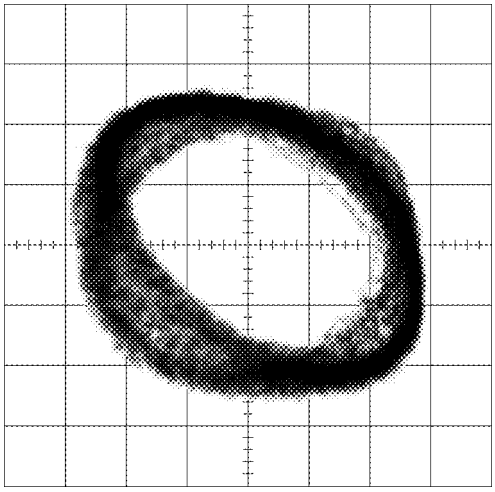
45°



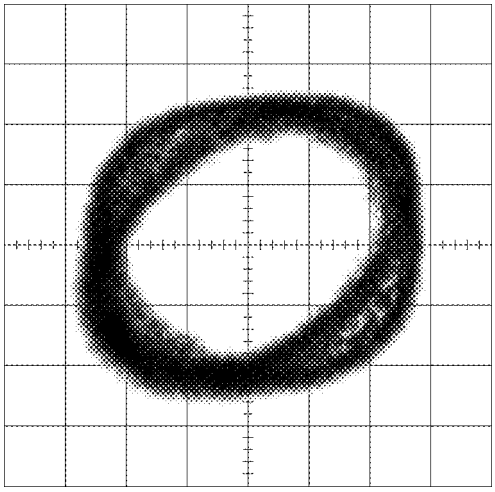
60°



75°



90°



7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 TEST MODE

(1) When entering into the TEST MODE

① Pressing and holding the "4" key and "6" key simultaneously, turn ON the "ACC" and "B.UP" (Reset Start) at the same time.
② Select the MD using the [SOURCE] key.
③ Insert the Disc or press the POWER ON [BAND] key.
↓
Each mode starts up.
Indication | POWER ON |

(2) When ending the operation

① Press the [SOURCE] key again to end the MD mode.
② Although the operation can be stopped by pressing the POWER OFF [BAND] key, when resuming the operation after once stopping it, take the above procedure 1 to turn off the MD mode.

(3) Operation methods under respective modes

♦TESTMD (When making servo checks)
① Press the TEST_MD mode [2].
② Press the OFST Adjustment [2] key.
③ Press the LD_ON [1].
④ Press the Focus CLOSE [1].
⑤ Press the IV Adjustment [2].
⑥ Press the EF.B Adjustment [3].
⑦ Press the Tracking CLOSE [1].
↓
Tracing starts from the address where the P.UP is currently located.
⑧ Press the AGC Setting [3] to select "With BIAS".
⑨ Press the AGC Execution [2]. "***11111111" appears and returns when it ends. [Disc+]
↓
Tracing movement starts.

Indication

XXXcXXs	(Cluster : Sector)	Positions of the cluster and the Disc (Starting and ending addresses are approximate ones.) PreDisc FFE0 (inner periphery) ~ 0000 ~ 0900 (outer periphery) MODisc 0032 (inner periphery) ~ 0901 (outer periphery)

Address changing method
① After the tracing movement ends, select the desired address (0003/0032/00b4/0500/0700) using the [6] key.
② [Disc+] to execute.
or
① After the tracing movement ends, select the desired jump (1T, 10T, 16T, 32T, FINE, 1000T) using the [4] key.
② [Disc+] to enter the setting.
③ [trk+]/[trk-] to shift to FWD/REW.
** Do not use JUMP for any other purposes than the above!!
*** If the Pickup runs out of the Disc range, the serve will run out. Consequently, go into Search or turn OFF the power before the Pickup runs out of the Disc range.

♦Executing the Test normal (Normal play under the testmode)
① Press the [3] key after each mode has started to start PLAY.
Indications

XXX	XX	XX	7-digit indication
Trk	Minutes	Seconds	

② [trk+]/[trk-] to change the "trk". (ff/rew are not workable here.)
③ Press the [3] key to call the occurring "err" code. (Use this function when determining the diagnosis when making trouble shooting.)
When multiple err/ng are occurring, each time the [3] key is pressed, the newer error code appears.
err-n-xx The larger the "n" is, the newer the error is.

err-n+1-xx
err-n+1-xx xx:err code, NG code appear.
(The NG code is of the internal mode which is not indicated under the actual product mode.)

** Once the "test normal" is executed, the adjusted value and the play address will be stored into the micro-computer as the LAST values.
When resetting to the initial value, turn off the "ACC" and "B.UP" to resume the "testmode".

♦Refer to the "testmode" chart regarding the MECHA mode.
* Make the CRG operation, LOAD/EJCT and spindle rotation forcefully.

List of ERR codes

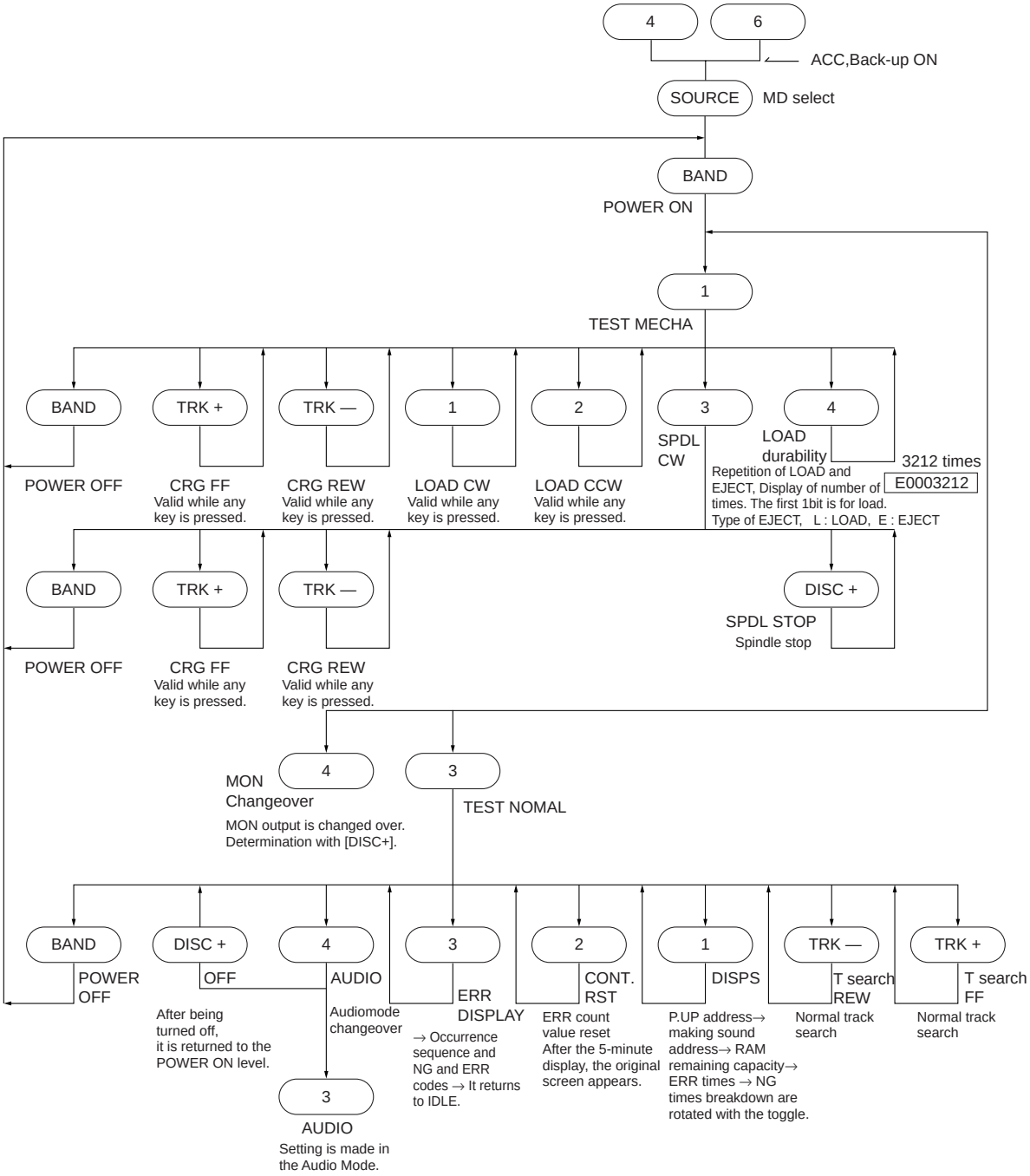
Codes	Categorization	Error contents
A0	System	VDSENS ⇒
HEAT	System	TEMP
B0	Electricity	Communications ⇒ Imperfect contact between the IC and the microcomputer or IC failure
01	CRGHOME_NG	The CRG cannot move into the inner periphery. The CRG cannot move out from the inner periphery. ⇒ Home SW failure or cartridge operation failure
11	F.CLOSE_NG	Focus CLOSE failure ⇒ Soiled disc, scratches or severe vibration
12	T.CLOSE_NG	Tracking, spindle CLOSE failures ⇒ Soiled disc, scratches or severe vibration, or the focus runs out easily.
17	OFSTA adjustment_NG	OFST adjustment failure ⇒ Imperfect contact between the IC and the microcomputer or IC failure
17	IV Adjustment_NG	IV adjustment failure ⇒ Imperfect contact between the IC and the microcomputer or IC failure
17	EF.B Adjustment_NG	EF.B adjustment failure ⇒ Imperfect contact between the IC and the microcomputer or IC failure
20	TOC_TIMEOUT	TOCREAD_timeout ⇒ Time is over after various retries.
21	UTOC_TIMEOUT	UTOCREAD_timeout ⇒ Time is over after various retries.
23	No_audio_NG	The test piece is not an audio Disc. ⇒ MD_Data_Disc
24	TOC_NG	TOC/UTOC contents_NG ⇒ Disc_data_NG (Defective disc)
-	BLANK	⇒ Raw Disc, all erased disc
30	Search_NG	Cannot reach the targeted address. ⇒ Cartridge/tacking failure, scratches

Mechanical errors will not be indicated.
* When a LoadErr occurs, eject the disc to end the error state.
* When an EJCTErr occurs, load a disc to end the error state.

List of NG codes
These NG codes will only be indicated under the ERR indication mode of the "Test normal"

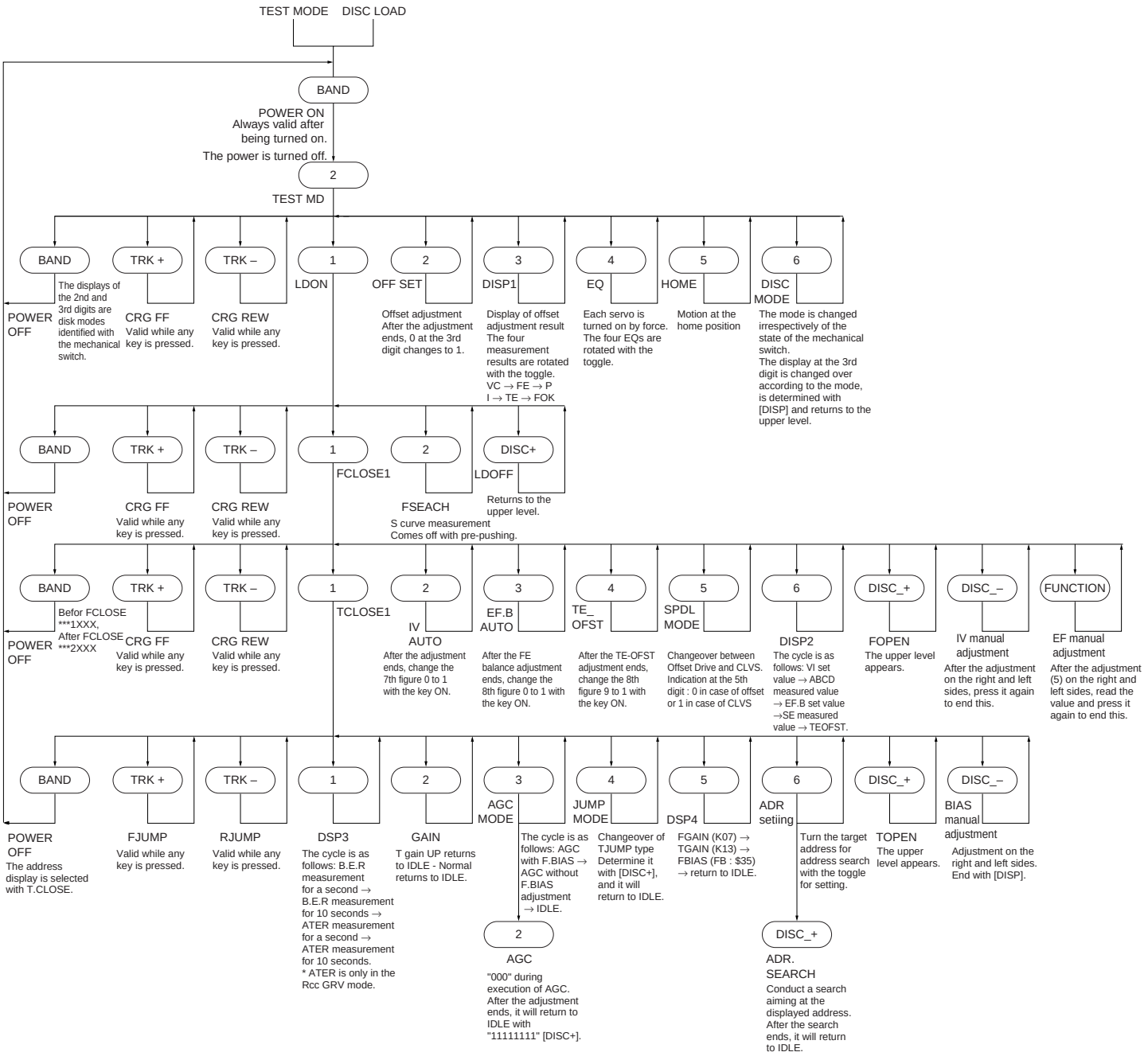
Codes	Categorization	Error contents
35	Electricity	Jump NG
36	Electricity	CRG movement NG
40	Mechanism	LOAD_NG
41	Mechanism	EJCT_NG
50	Electricity	IV adjustment NG
51	Electricity	EF.B adjustment NG
52	Electricity	Spindle LOCK_NG
53	Electricity	FOK_NG
60	Electricity	Focus AGC_NG
61	Electricity	Tracking AGC_NG
62	Electricity	Focus BIAS adjustment_NG

● Flow Chart(Mechanism Section)



Mode Name : Alphanumeric characters were considered to be displayed in 8 digits.
* : The values before operation are thoroughly checked.
$: Data read from CXD2655 are displayed.
X : Set values are displayed.
Data not shown on the display remain as they were before operation.
ERR times : out-of-focus times and track jumping times

● Flow Chart(Servo Section)


TEST MODE
DISC LOAD
BAND
POWER ON
Always valid after being turned on.
The power is turned off.
2
TEST MD
BAND
TRK +
TRK –
1
2
3
4
5
6
POWER OFF
The displays of the 2nd and 3rd digits are disk modes identified with the mechanical switch.
CRG FF
Valid while any key is pressed.
CRG REW
Valid while any key is pressed.
LDON
OFF SET
Offset adjustment
After the adjustment ends, 0 at the 3rd digit changes to 1.
DISP1
Display of offset adjustment result
The four measurement results are rotated with the toggle.
VC → FE → P
I → TE → FOK
EQ
Each servo is turned on by force.
The four EQs are rotated with the toggle.
HOME
Motion at the home position
DISC MODE
The mode is changed irrespectively of the state of the mechanical switch.
The display at the 3rd digit is changed over according to the mode, is determined with [DISP] and returns to the upper level.
DISC+
FCLOSE1
LDOFF
Returns to the upper level.
FSEACH
S curve measurement
Comes off with pre-pushing.
Befor FCLOSE ***1XXX,
After FCLOSE ***2XXX
TCLOSE1
IV AUTO
After the adjustment ends, change the 7th figure 0 to 1 with the key ON.
EF.B AUTO
After the FE balance adjustment ends, change the 8th figure 0 to 1 with the key ON.
TE_ OFST
After the TE-OFST adjustment ends, change the 8th figure 9 to 1 with the key ON.
SPDL MODE
Changeover between Offset Drive and CLVS. Indication at the 5th digit : 0 in case of offset or 1 in case of CLVS
DISP2
The cycle is as follows: VI set value → ABCD measured value → EF.B set value →SE measured value → TEOFST.
DISC_+
FOPEN
The upper level appears.
DISC_–
IV manual adjustment
After the adjustment on the right and left sides, press it again to end this.
FUNCTION
EF manual adjustment
After the adjustment (5) on the right and left sides, read the value and press it again to end this.
The address display is selected with T.CLOSE.
FJUMP
Valid while any key is pressed.
RJUMP
Valid while any key is pressed.
DSP3
The cycle is as follows: B.E.R measurement for a second → B.E.R measurement for 10 seconds → ATER measurement for a second → ATER measurement for 10 seconds.
* ATER is only in the Rcc GRV mode.
GAIN
T gain UP returns to IDLE - Normal returns to IDLE.
AGC MODE
The cycle is as follows: AGC with F.BIAS → AGC without F.BIAS adjustment → IDLE.
AGC
"000" during execution of AGC. After the adjustment ends, it will return to IDLE with "11111111" [DISC+].
JUMP MODE
Changeover of TJUMP type Determine it with [DISC+], and it will return to IDLE.
DSP4
FGAIN (K07) → TGAIN (K13) → FBIAS (FB : $35) → return to IDLE.
ADR setiing
Turn the target address for address search with the toggle for setting.
DISC_+
ADR. SEARCH
Conduct a search aiming at the displayed address. After the search ends, it will return to IDLE.
DISC_+
TOPEN
The upper level appears.
DISC_–
BIAS manual adjustment
Adjustment on the right and left sides. End with [DISP].

7.1.2 DISASSEMBLY

● **Removing the Upper Case (not shown)**

1. Remove the two screws.
2. Remove the upper case.

● **Removing the MD Mechanism Module (Fig.1)**

1 Remove the four screws.

Disconnect the connector and then remove the MD Mechanism Module (not shown).

● **Removing the Grille Assy (not shown)**

1. Disconnect the two stoppers and then remove the Grille Assy.

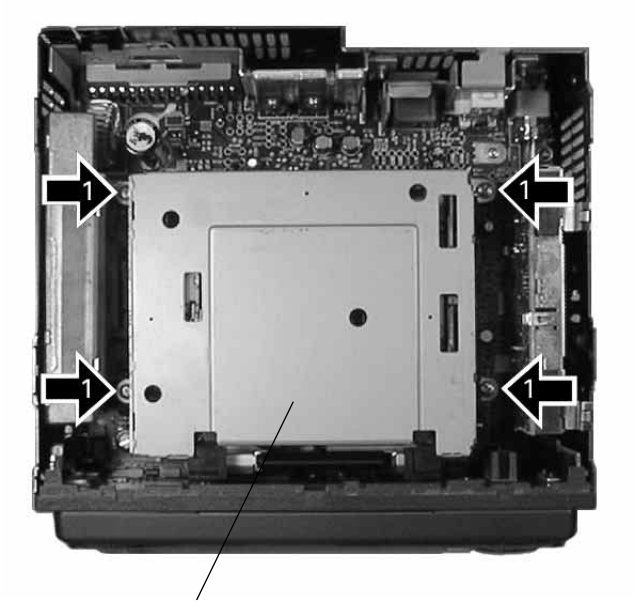


Fig.1

● **Removing the Tuner Amp Unit (Fig.2)**

1 Remove the two screws.

2 Remove the four screws.

3 Remove the screw.(MEH-P5100R/EW)

4 Unbend the three tabs and then remove the Tuner Amp Unit .

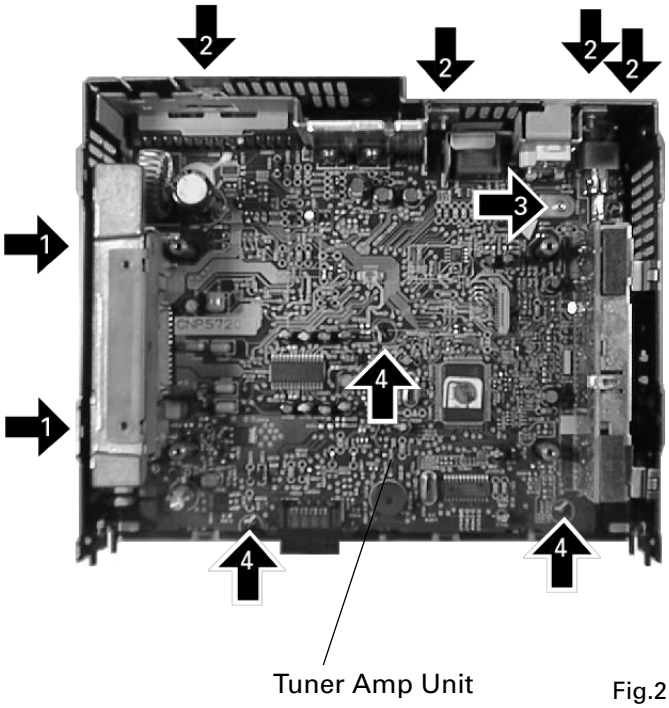
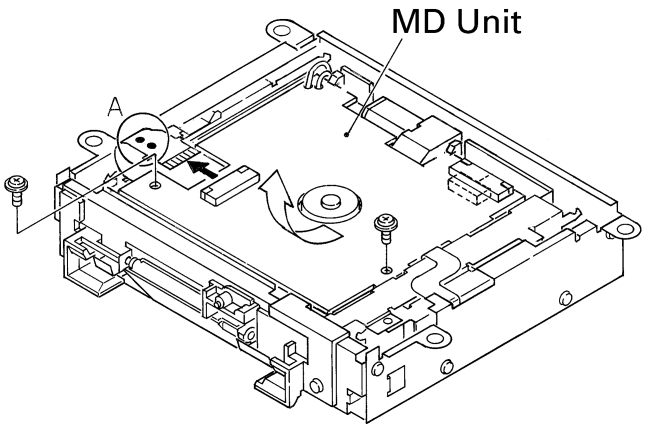


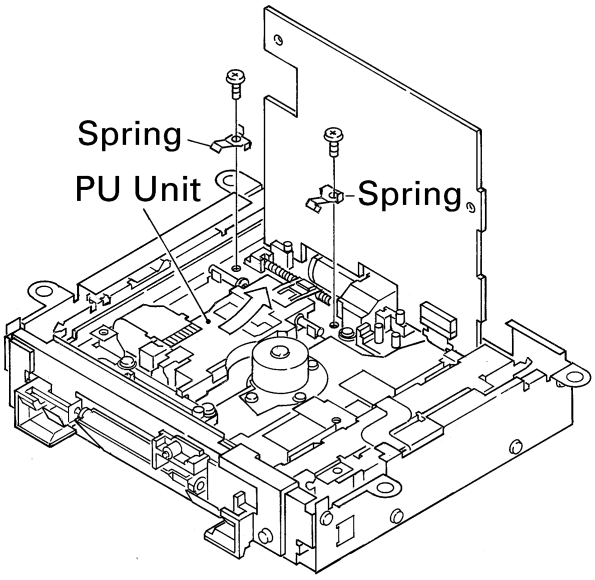
Fig.2

● **Removing the PU Unit**

1. Provide short solder in section A, then remove the connector
2. Remove the two screws, then erect the board in the direction indicated by the white arrow head.



3. Remove the two screws and two springs.
4. Drive out the PU Unit through the direction indicated by the white arrow head.



7.2 PARTS

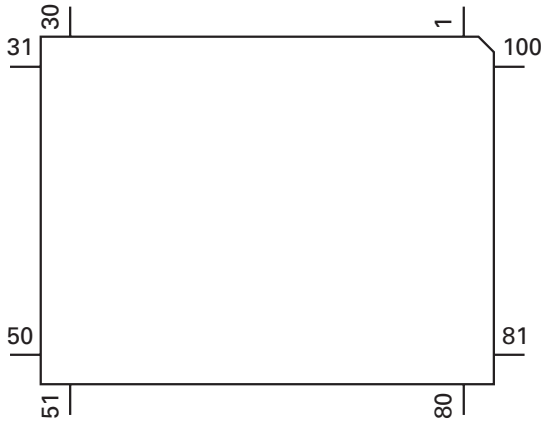
7.2.1 IC

● **Pin Functions (PE5074A)**

Pin No.	Pin Name	I/O	Function and Operation
1	SWVDD	O	Keyboard unit power supply control output
2	$\overline{\text{DSENS}}$	I	Grille detach sense input
3	NC		Not used
4	ISENS	I	Illumination power supply sence input
5	TESTIN	I	Test program mode input
6	$\overline{\text{DRST}}$	O	RDS decoder reset output
7-10	NC		Not used
11	$\overline{\text{RESET}}$	I	Reset input
12	XT2		Not used
13	XT1		Not used
14	VSS		GND
15	X2		Crystal oscillator connection pin
16	X1		Crystal oscillator connection pin
17	REGOFF		Not used
18	REGC		Not used
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPWR	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power supply control output
23	LCDPW	O	LCD back light power supply control output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ASENBO	O	Slave power supply control output
26	DALMON	O	VDD power supply control output
27	TELIN	I	Telephone mute input
28	MUTE	O	System mute output
29	DIM	O	Dimmer select output
30	FM/AM	O	RDS decoder power supply control output
31	LOCL	O	LOCL output
32	LOCH	O	LOCH output
33	VCK	O	Clock output for electronic volume
34	VST	O	Strobe pulse output for electronic volume
35	VDT	O	Data output for electronic volume
36	$\overline{\text{TMUTE}}$	O	Tuner mute output
37	A.ANT	O	Auto antenna output
38	SD	I	Station detector input
39	ST	I	FM stereo input
40	VSS		GND
41	VDD		Power supply
42	NC		Not used
43	SDBW	I	SDBW input
44	$\overline{\text{RDSLK}}$	I	RDS LK signal input
45	$\overline{\text{CURRQ}}$	O	RDS tuning voltage FIX output
46	RDT	I	RDS data input
47	NL2DT	I	RDS noise level 2 input
48,49	NC		Not used
50	$\overline{\text{DLED}}$	O	Alarm LED output
51	NC		Not used
52	TUNPCE2	O	PLL chip enable 2 output
53	NC		Not used
54	ROMDATA	I/O	Not used
55	ROMCS	O	Not used
56–61	NC		Not used
62	PCL	O	Clock adjustment output
63	BRXEN	I/O	P-BUS reception enable input/output
64	$\overline{\text{BSRQ}}$	I	P-BUS service request output pin
65	BSCK	I/O	P-BUS serial clock input/output
66	BSI	I	P–BUS serial data input
67	BSO	O	P–BUS serial data output
68	BRST	I	P–BUS reset input

Pin No.	Pin Name	I/O	Function and Operation
69–72	NC		Not used
73	TEST	I	Test terminal
74	SL	I	Signal level input from tuner
75	MODEL	I	Model select input
76	NC		Not used
77	NL	I	RDS noise level input
78–81	NC		Not used
82	AVDD		A/D converter power supply
83	AVREF		A/D converter reference voltage
84	AVSS		A/D converter GND
85	RX	I	IP BUS data input
86	TX	O	IP BUS data output
87	GND		GND
88	$\overline{\text{LDET}}$	I	RDS PLL lock sense input
89	$\overline{\text{RCK}}$	I	RDS demodulation clock input
90	RDS57K	I	RDS 57kHz BP-OUT sense input
91	GND		GND
92	$\overline{\text{ASENS}}$	I	ACC power sense input
93	$\overline{\text{BSENS}}$	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KYDT	I	Key data input
96	DPDT	O	Display data output
97	$\overline{\text{TUNPCK}}$	O	Serial clock output for PLL IC
98	TUNPDO	O	Data output for PLL IC
99	TUNPCE	O	Chip enable output for PLL IC
100	PEE	O	Beep tone output

*PE5074A



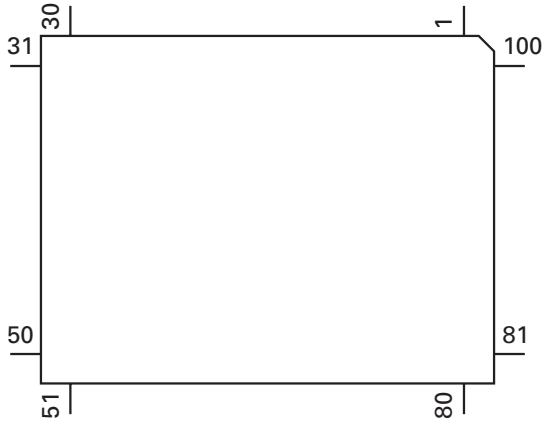
IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

● **Pin Functions (PE5075A)**

Pin No.	Pin Name	I/O	Function and Operation
1	SWVDD	O	Keyboard unit power supply control output
2	$\overline{\text{DSENS}}$	I	Grille detach sense input
3	NC		Not used
4	ISENS	I	Illumination power supply sence input
5	TESTIN	I	Test program mode input
6	NC		Not used
7-10	NC		Not used
11	$\overline{\text{RESET}}$	I	Reset input
12	XT2		Not used
13	XT1		Not used
14	VSS		GND
15	X2		Crystal oscillator connection pin
16	X1		Crystal oscillator connection pin
17	REGOFF		Not used
18	REGC		Not used
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPWR	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power supply control output
23	LCDPW	O	LCD back light power supply control output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ASENBO	O	Slave power supply control output
26	DALMON	O	VDD power supply control output
27	TELIN	I	Telephone mute input
28	MUTE	O	System mute output
29	DIM	O	Dimmer select output
30	NC		Not used
31	LOCL	O	LOCL output
32	LOCH	O	LOCH output
33	VCK	O	Clock output for electronic volume
34	VST	O	Strobe pulse output for electronic volume
35	VDT	O	Data output for electronic volume
36	$\overline{\text{TMUTE}}$	O	Tuner mute output
37	A.ANT	O	Auto antenna output
38	SD	I	Station detector input
39	ST	I	FM stereo input
40	VSS		GND
41	VDD		Power supply
42-49	NC		Not used
50	$\overline{\text{DLED}}$	O	Alarm LED output
51	NC		Not used
52	TUNPCE2	O	PLL chip enable 2 output
53	NC		Not used
54	ROMDATA	I/O	Not used
55	ROMCS	O	Not used
56–61	NC		Not used
62	PCL	O	Clock adjustment output
63	BRXEN	I/O	P-BUS reception enable input/output
64	$\overline{\text{BSRQ}}$	I	P-BUS service request output pin
65	BSCK	I/O	P-BUS serial clock input/output
66	BSI	I	P–BUS serial data input
67	BSO	O	P–BUS serial data output
68	BRST	I	P–BUS reset input
69–72	NC		Not used
73	TEST	I	Test terminal
74	SL	I	Signal level input from tuner
75	MODEL	I	Model select input

Pin No.	Pin Name	I/O	Function and Operation
76–81	NC		Not used
82	AVDD		A/D converter power supply
83	AVREF		A/D converter reference voltage
84	AVSS		A/D converter GND
85	RX	I	IP BUS data input
86	TX	O	IP BUS data output
87	GND		GND
88–90	NC		Not used
91	GND		GND
92	$\overline{\text{ASENS}}$	I	ACC power sense input
93	$\overline{\text{BSENS}}$	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KYDT	I	Key data input
96	DPDT	O	Display data output
97	$\overline{\text{TUNPCK}}$	O	Serial clock output for PLL IC
98	TUNPDO	O	Data output for PLL IC
99	TUNPCE	O	Chip enable output for PLL IC
100	PEE	O	Beep tone output

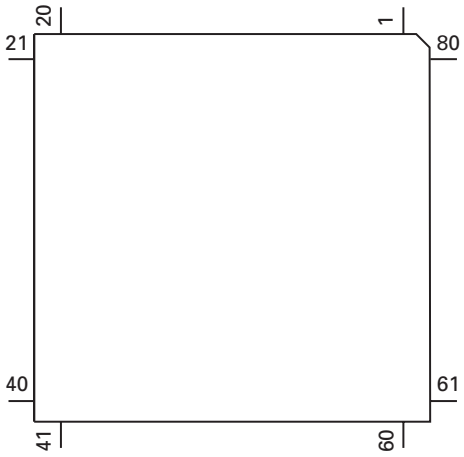
*PE5075A



● **Pin Functions (PD6277A)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	VSS			GND
2	X1			Crystal oscillator connection pin
3	X0			Crystal oscillator connection pin
4	$\overline{\text{RST}}$	I		System reset input
5	MOD1	I		Operation mode appointment input
6	MOD0	I		Operation mode appointment input
7	SCK			Not used
8	S0	O	C	System micro computer UART communication data output
9	S1	I		System micro computer UART communication data input
10	REM	I		Remote control reception input
11	$\overline{\text{DIM}}$	O	C	Dimmer output
12	AMB/$\overline{\text{GRN}}$	O	C	Illumination color select output
13–16	$\overline{\text{KDT4–1}}$	I		Key data input
17–22	$\overline{\text{KST6–1}}$	O	C	Key strobe output
23	VCC			Power supply
24	$\overline{\text{INH}}$	O	N	LCD driver display inhibit output
25	CE	O	N	Chip enable output for display driver
26	CL	O	N	Synchronizing signal output for display driver
27	DI	O	N	Data output for display driver
28–73	SEG45-0	O	L	LCD segment output
74–77	COM3–0	O	L	LCD common output
78	V3			LCD drive power supply
79	V2			LCD bias power supply
80	V1			LCD bias power supply

*PD6277A

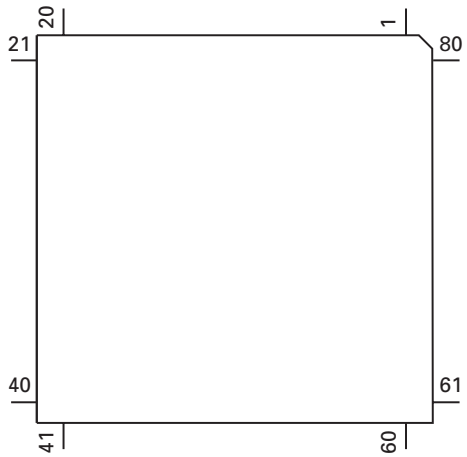


Format	Meaning
C	C MOS
N	N channel open drain
L	LCD C output

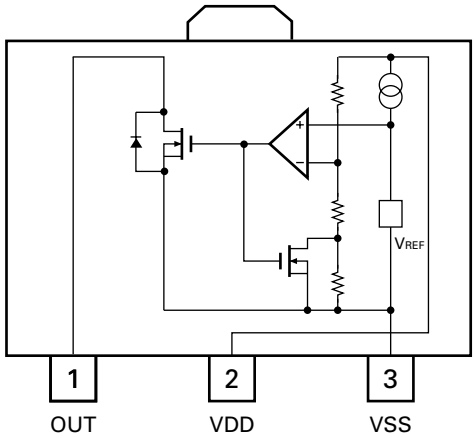
● **Pin Functions (LC75874W)**

Pin No.	Pin Name	I/O	Function and Operation
1–64	SE3-66	O	LCD segment signal output
65–68	CO1-CO4	O	LCD common signal output
69	VDD		Power supply
70	VLCD		LCD Power supply
71	VLCD1		LCD bias power supply
72	VLCD2		LCD bias power supply
73	VSS		GND
74	OSC	I/O	
75	LINH	I	Inhibit input from IC901
76	CE	I	Chip enable output pin for LCD driver
77	CL	I	Clock output for LCD driver
78	DI	I	Data output for LCD driver
79,80	SE1,SE2	O	LCD segment signal

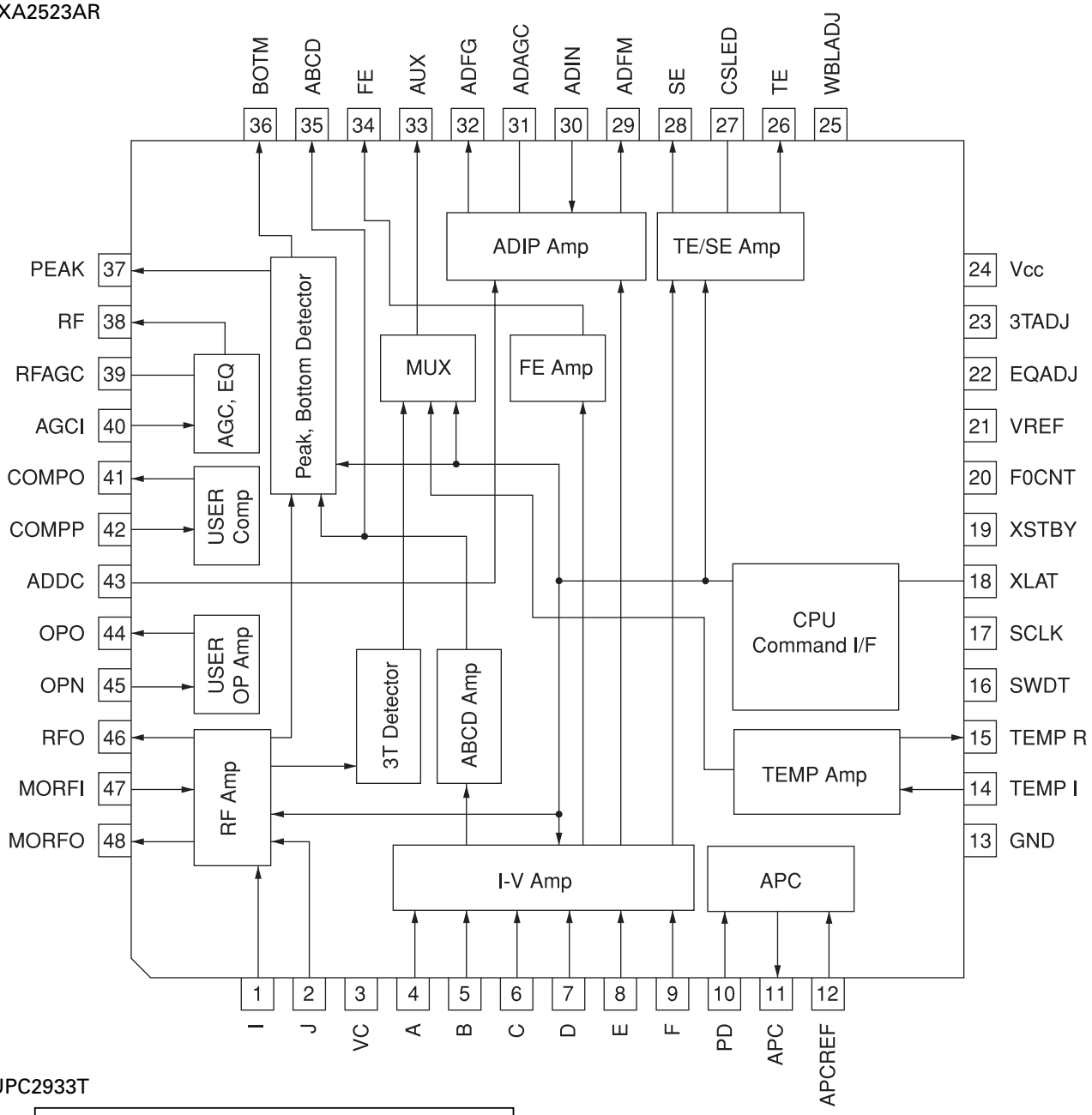
LC75874W



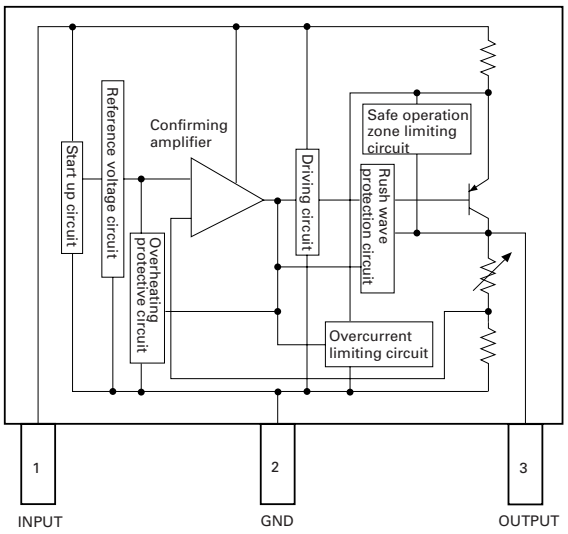
* S80734ANUP-EDY



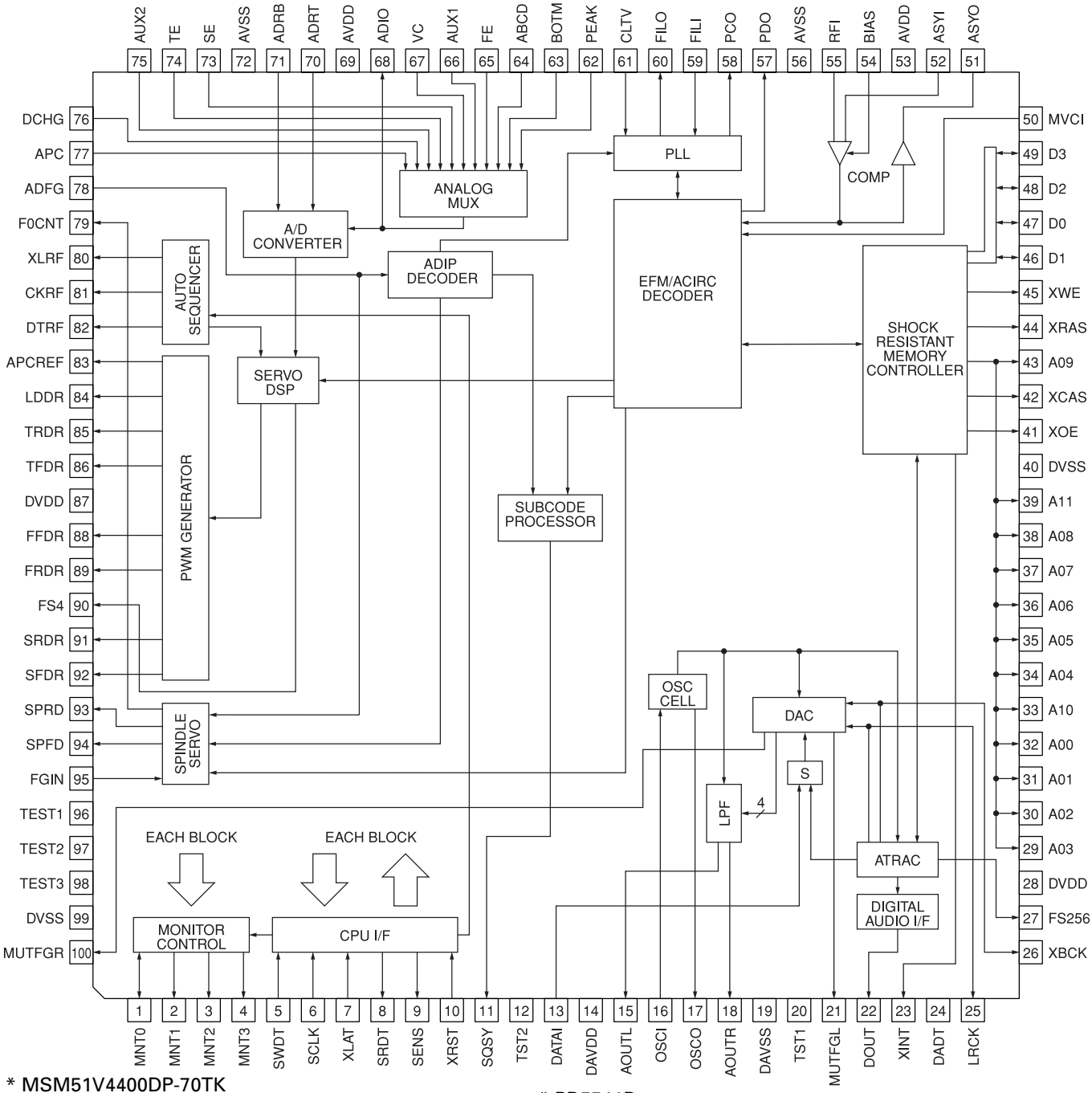
CXA2523AR



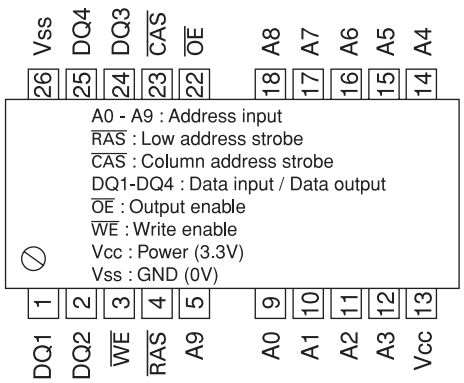
UPC2933T



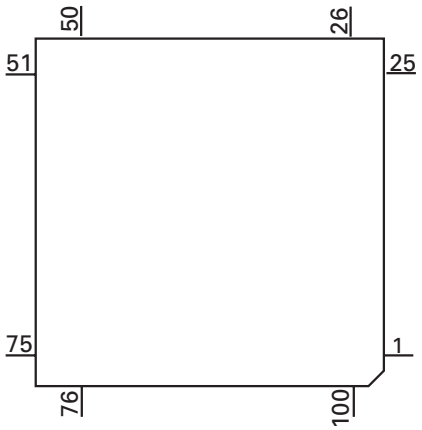
CXD2655BR



* MSM51V4400DP-70TK



* PD5541B

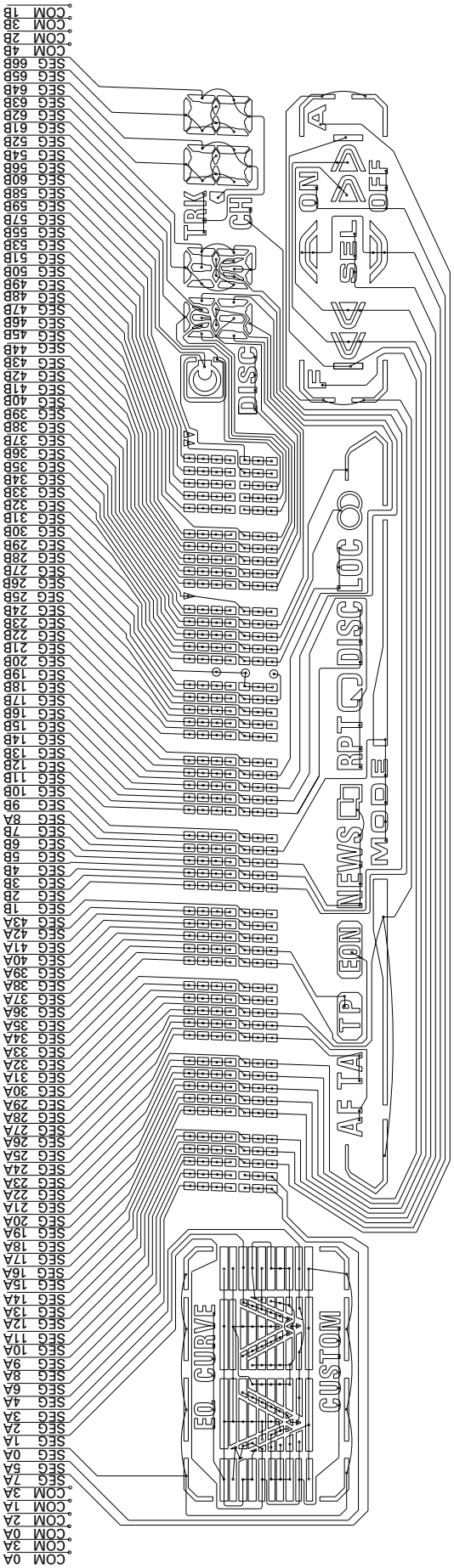


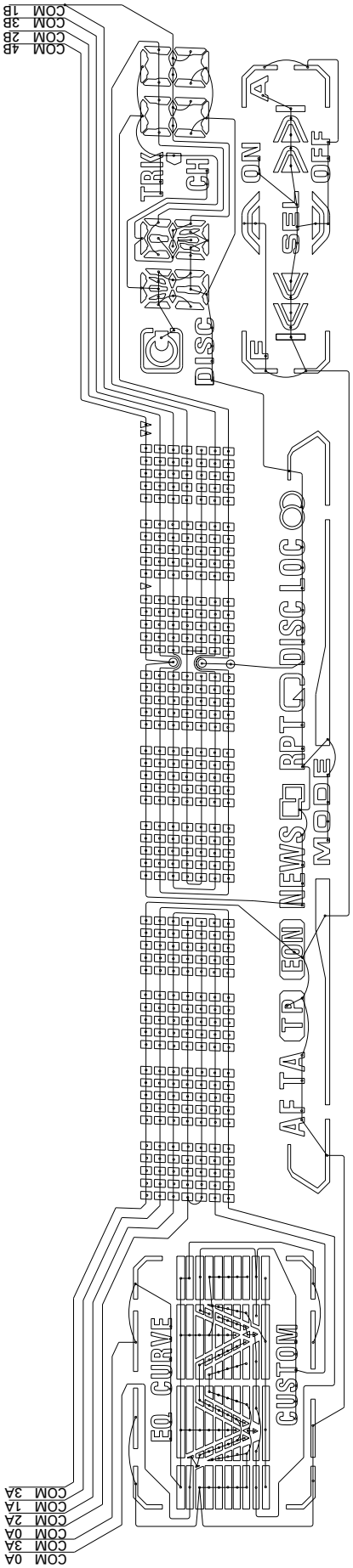
● **Pin Functions(PD5541B)**

Pin No.	Pin Name	I/O	Format	Function and Operation
1	RAM	O	C	Remaining RAM capacity D/A output
2-5	NC			Open
6	BYTE	I		VSS
7	CNVSS	I		VSS
8,9	NC	O	C	Open
10	$\overline{\text{RESET}}$	I		Resetting input
11	XOUT	O		Main clock oscillation pin
12	VSS			GND
13	XIN	I		Main clock oscillation pin
14	VCC			5V
15	NC			Not used
16	SQSY	I		DISC sub-code Q sink?/ADIP sink?
17	$\overline{\text{BRST}}$	I		P-BUS resetting input
18	XINT	I		Decoder interrupting input
19	NC	O	C	Open
20	SENSE	I		MD LSI SENSE output monitor
21-27	NC			Open
28	XRST	O	C	MD LSI resetting output
29	SWDT	O	C	MD LSI IF data output
30	SRDT	I		MD LSI IF data input
31	SCLK	I		MD LSI IF clock output
32	XLAT	O	C	MD LSI IF latch signal output
33	BSO	O	C	P-BUS data output
34	BSI	I		P-BUS data input
35	BSCK	I/O	C	P-BUS clock input/output
36	NC			Open
37	$\overline{\text{BSRQ}}$	O	C	P-BUS serial pole request output
38	BRXEN	I/O	C	Receivable I/O
39-42	NC			Open
43	LDCNT	O	C	Laser diode ON/OFF
44	VDON	O	C	Power ON/OFF
45-50	NC			Open
51	TESTIN	I		Test program mode input
52-59	NC	O	C	Open
60	VCC			5V
61	CK	I		Clock signals
62	VSS			GND
63-74	NC			Open
75	MUTE	O	C	Comprehensive mute output
76	CONT	O	C	Servo-driver power control
77	MDLOAD	O	C	Loading motor control output
78	MDEJECT	O	C	Loading motor control output
79	LSW	I		Disc loading start signal input
80	CSW	I		Loading end signal input
81	ESW	I		EJECT end signal input
82	DISC	I		Reflectance discriminating signal input
83	HOME	I	C	Home position detection input
84,85	NC			Open
86	VDDSW	O	C	SW VDD ON/OFF
87-92	NC			Open
93	TEMP			HIGH/LOW temperature detection input
94	AVSS			A/D GND
95	VDSENSE			VD power UP/DOWN sensing
96	VREF			Reference voltage input for A/D converter
97	AVCC			Analog power supply
98-100	NC			Open

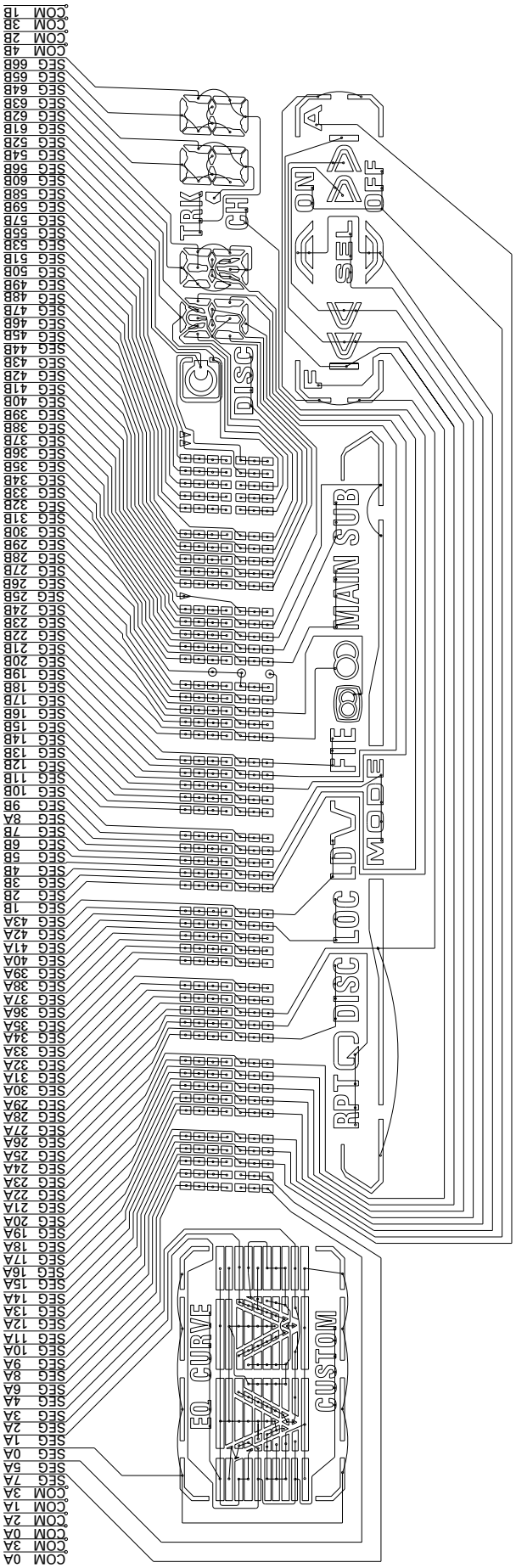
7.2.2 DISPLAY

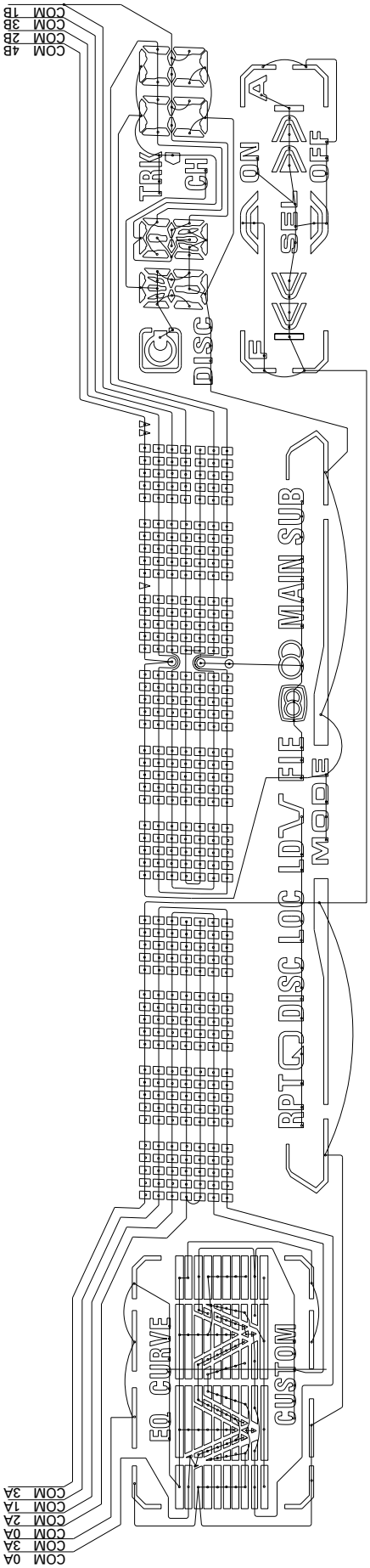
● **CAW1589(MEH-P5100R/EW)**



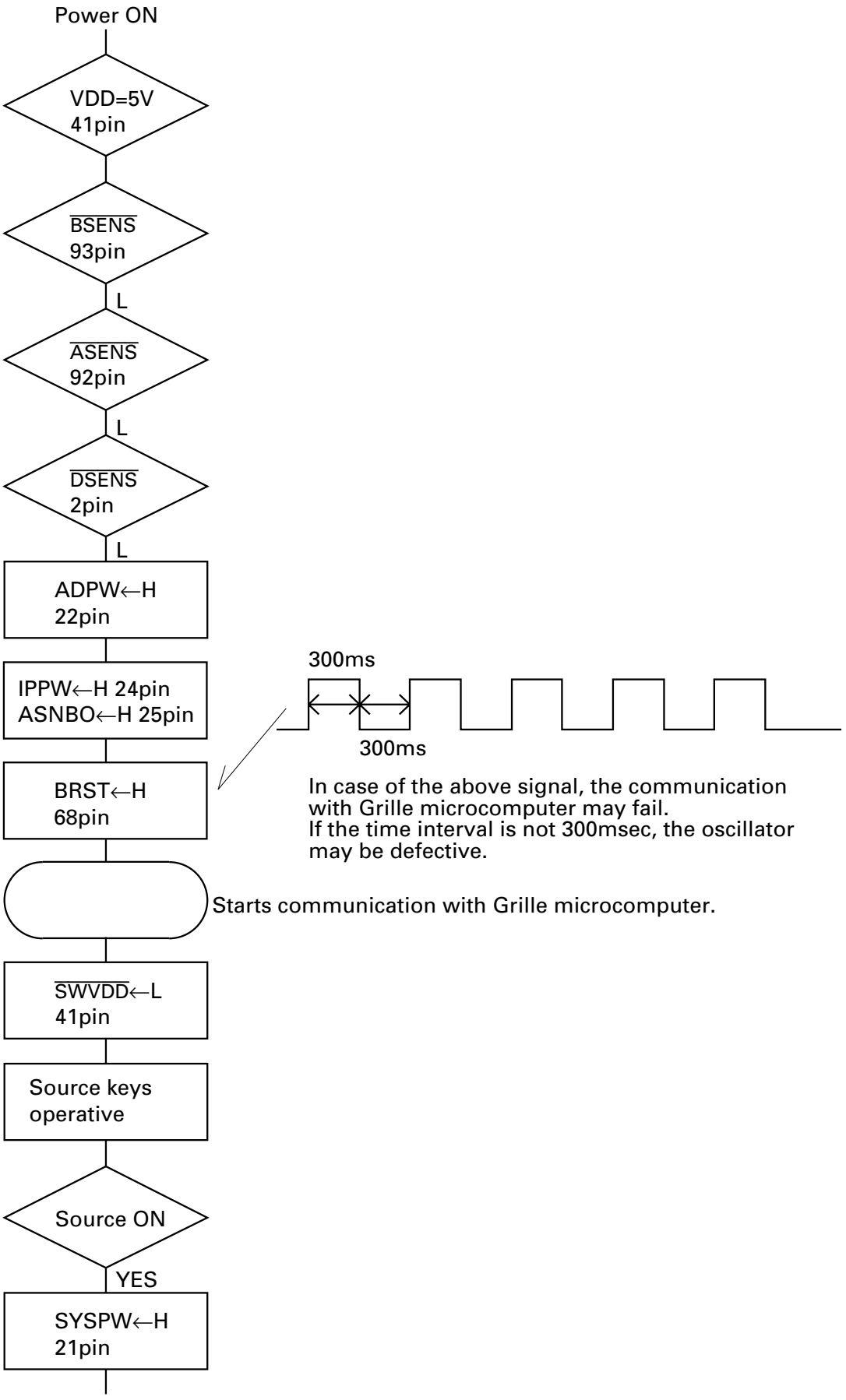


● **CAW1590(MEH-P5150/ES)**





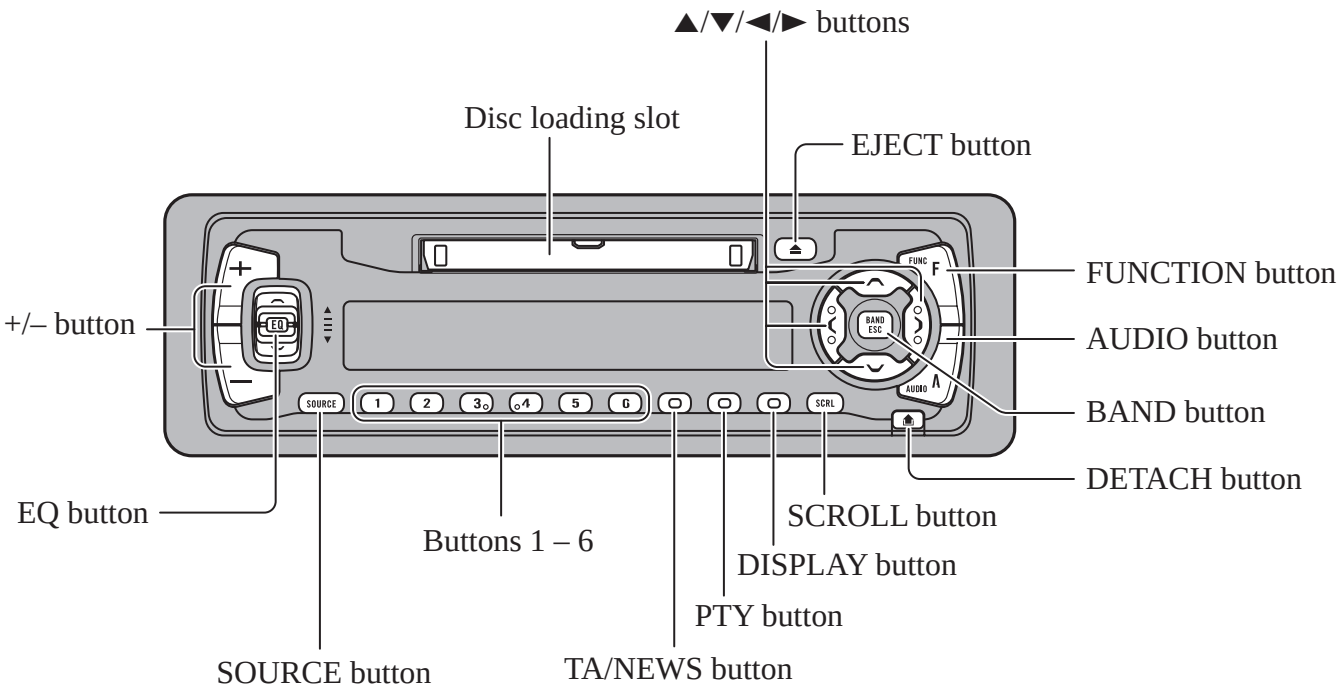
7.3 OPERATIONAL FLOW CHART



8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

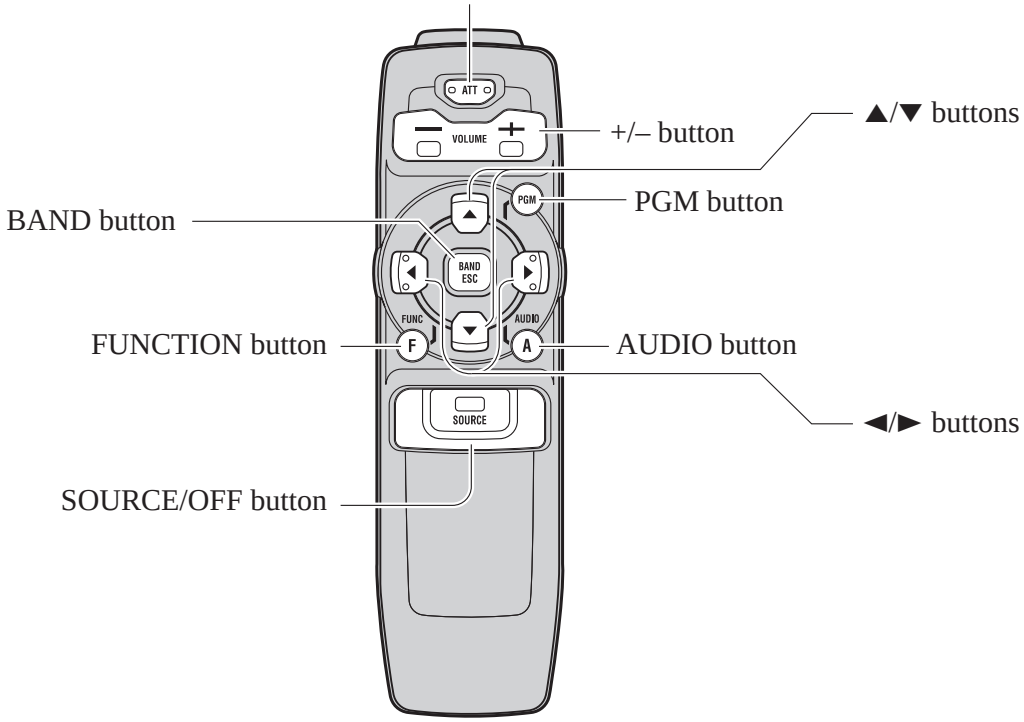
● **MEH-P5100R/EW**



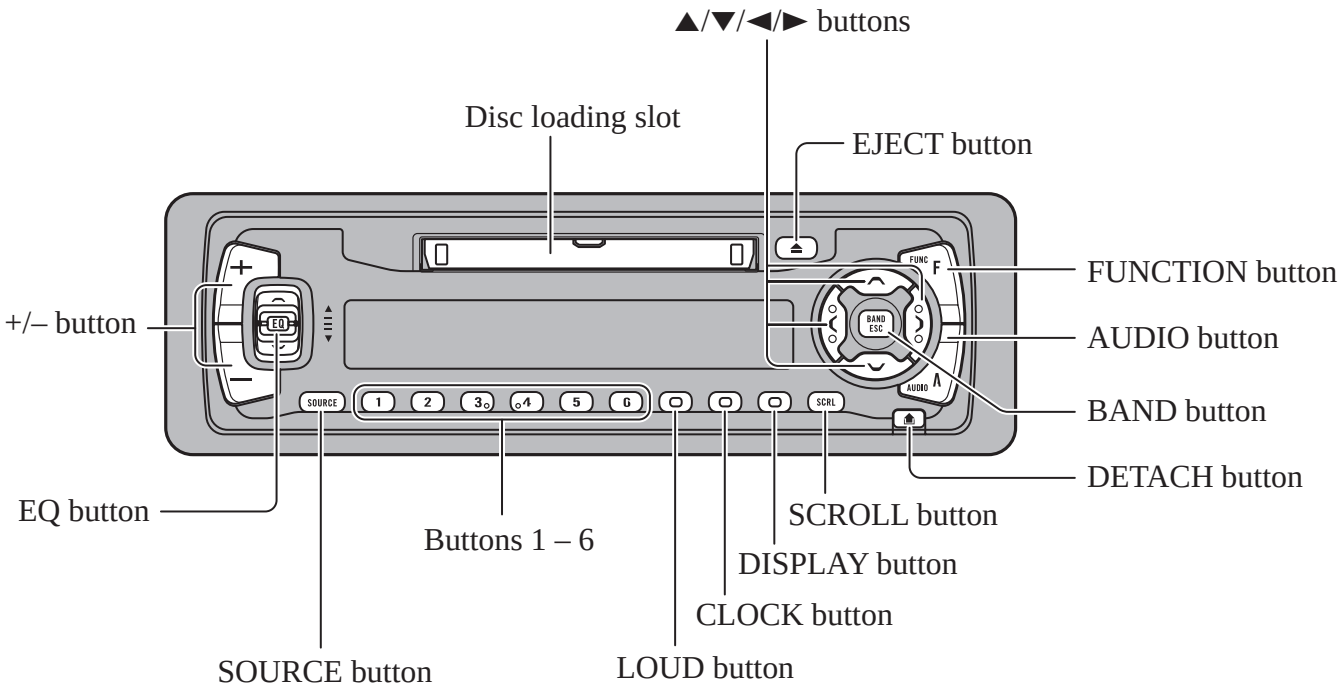
Remote Controller (CD-R600)

The remote controller (CD-R600) enabling remote control of the head unit is sold separately. Operation is the same as when using buttons on the head unit.

ATT button
This lets you quickly lower volume level (by about 90%).
Press once more to return to the original volume level.



● **MEH-P5150/ES**

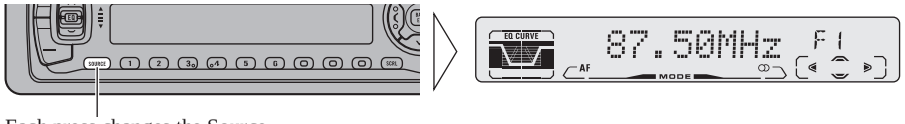

▲/▼/◄/► buttons
Disc loading slot
EJECT button
FUNCTION button
+/– button
AUDIO button
BAND button
DETACH button
EQ button
SCROLL button
Buttons 1 – 6
DISPLAY button
CLOCK button
SOURCE button
LOUD button

To Listen to Music

The following explains the initial of operations required before you can listen to music.

Note:
- Loading a disc in this product.

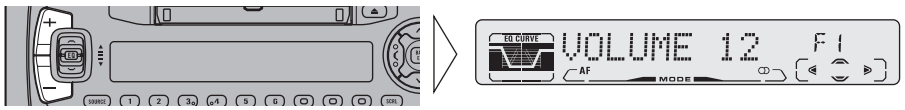
1. Select the desired source (e.g. Tuner).



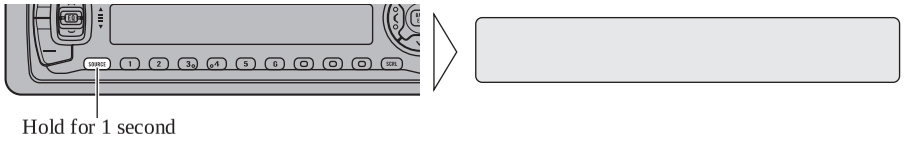
Each press of the SOURCE button selects the desired source in the following order:
CD player (one disc only) → TV → Tuner → Built-in MD player → Multi-MD player → Multi-CD player → External Unit → AUX

Note:
- External Unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this product. Only one External Unit can be controlled by this product.
- In the following cases, the sound source will not change:
  * When a product corresponding to each source is not connected to this product.
  * No disc is set in this product.
  * No disc is set in the CD player.
  * No magazine is set in the Multi-CD player.
  * No disc is set in the Multi-MD player.
  * AUX (external input) is set to OFF.
- When this product's blue/white lead is connected to the car's Auto-antenna relay control terminal, the car's Auto-antenna extends when this product's source is switched ON. To retract the antenna, switch the source OFF.

2. Raise or lower the volume.



3. Turn the source OFF.



Basic Operation of Tuner

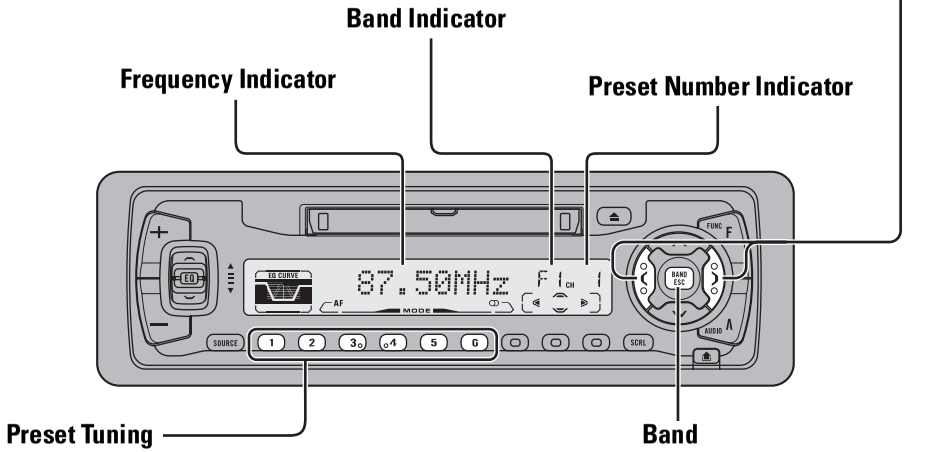
This product's AF function can be switched ON and OFF. AF should be switched OFF for normal tuning operations.

Manual and Seek Tuning

- **You can select the tuning method by changing the length of time you press the ◄/► button.**

Manual Tuning (step by step)	0.5 seconds or less
Seek Tuning	0.5 seconds or more

Note:
- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcast stations. Seek Tuning starts as soon as you release the button.
- Stereo indicator "◯◯" lights when a stereo station is selected.



- **You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.**

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

Note:
- Up to 18 FM stations (6 in F1 (FM1), F2 (FM2) and F3 (FM3)) and 6 MW/LW stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

Basic Operation of Built-in MD Player

Disc Loading Slot

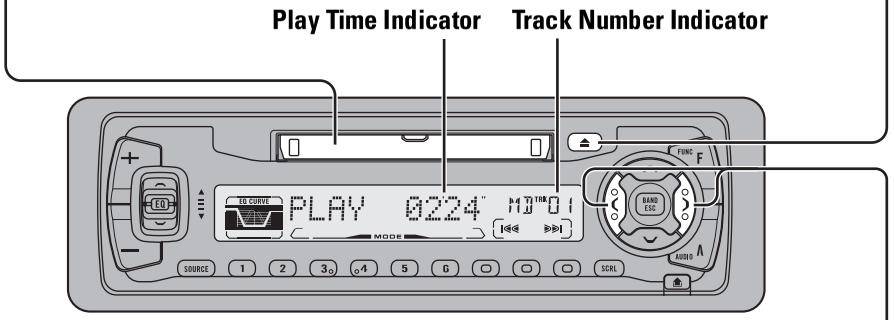
The Built-in MD player plays one MD at a time. Load the MD in the direction of the arrow, with the label side facing up.

Precaution:
- Never load an MD when the front panel is detached. If you do, it may result in malfunctions such as being unable to eject the MD.

Note:
- Load an MD after confirming the MD shutter is closed.

Eject

Note:
- The MD function can be turned ON/OFF with the disc remaining in this product.
- A disc left partially inserted after ejection may incur damage or fall out.



- **You can select between Track Search or Fast forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast forward/Reverse	Continue pressing

Note:
- When you load a disc, this product reads information recorded on the disc such as the number of tracks. While the disc is being read, “TOC READ” is indicated in the display.
- If you load a disc with the arrow pointing in the wrong direction, it is automatically ejected.
- If the Built-in MD player cannot operate properly, an error message (such as “ERROR-11”) appears on the display.

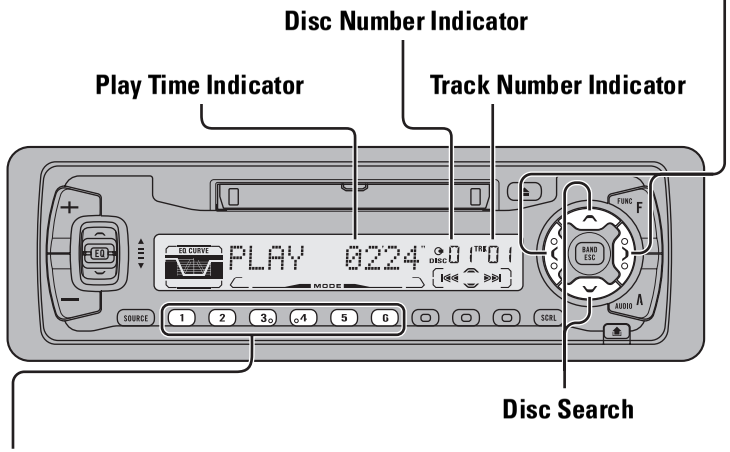
Basic Operation of Multi-CD Player

This product can control a Multi-CD player (sold separately).

Track Search and Fast Forward/Reverse

- **You can select between Track Search or Fast Forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing



Disc Number Search (for 6-Disc, 12-Disc types)

- **You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.**

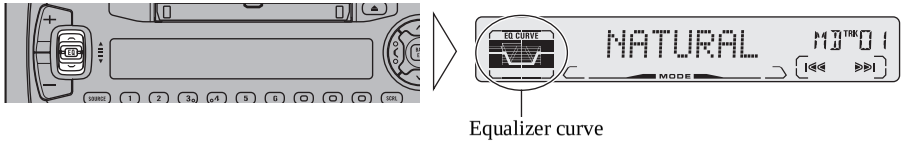
Note:
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

Note:
- The Multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. “READY” is displayed.
- If the Multi-CD player cannot operate properly, an error message such as “ERROR-14” is displayed. Refer to the Multi-CD player owner’s manual.
- If there are no discs in the Multi-CD player magazine, “NO DISC” is displayed.

Selecting the Equalizer Curve

You can switch between Equalizer curves.

- **Move the EQ button up or down to select the desired Equalizer curve.**



POWERFUL ↔ NATURAL ↔ VOCAL ↔ CUSTOM ↔ EQ FLAT ↔ SUPER BASS

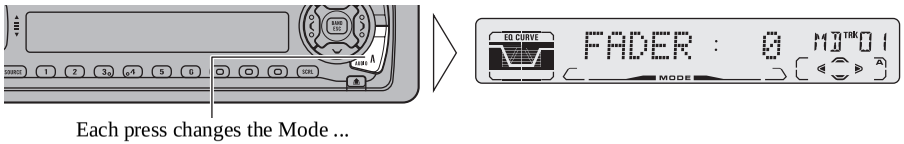
Note:
- "CUSTOM" stores an equalizer curve you have made adjustments to.
- You can create different "CUSTOM" curves for different sources. (The CD player (one disc only) and Multi-CD player are set to the same Equalizer Curve Adjustment setting automatically. The Built-in MD player and Multi-MD player are set to the same Equalizer Curve Adjustment setting automatically.)

Entering the Audio Menu

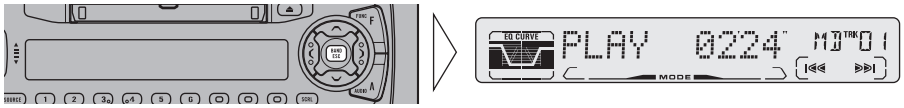
With this Menu, you can adjust the sound quality.

Note:
- After entering the Audio Menu, if you do not perform an operation within about 30 seconds, the Audio Menu is automatically canceled.

1. **Select the desired mode in the Audio Menu.**



2. **Operate a mode.**
3. **Cancel the Audio Menu.**



Audio Menu Functions

The Audio Menu features the following functions.

Balance Adjustment (FADER)

This function allows you to select a Fader/Balance setting that provides ideal listening conditions in all occupied seats.

1. **Press the AUDIO button and select the Fader/Balance mode (FADER) in the Audio Menu.**
2. **Adjust front/rear speaker balance with the ▲/▼ buttons.**
   "FADER :F15" – "FADER :R15" is displayed as it moves from front to rear.

3. **Adjust left/right speaker balance with the ◄/► buttons.**
   "BAL :L 9" – "BAL :R 9" is displayed as it moves from left to right.

Note:
- "FADER : 0" is the proper setting when 2 speakers are in use.

Equalizer Curve Adjustment (EQ-LOW/MID/HIGH)

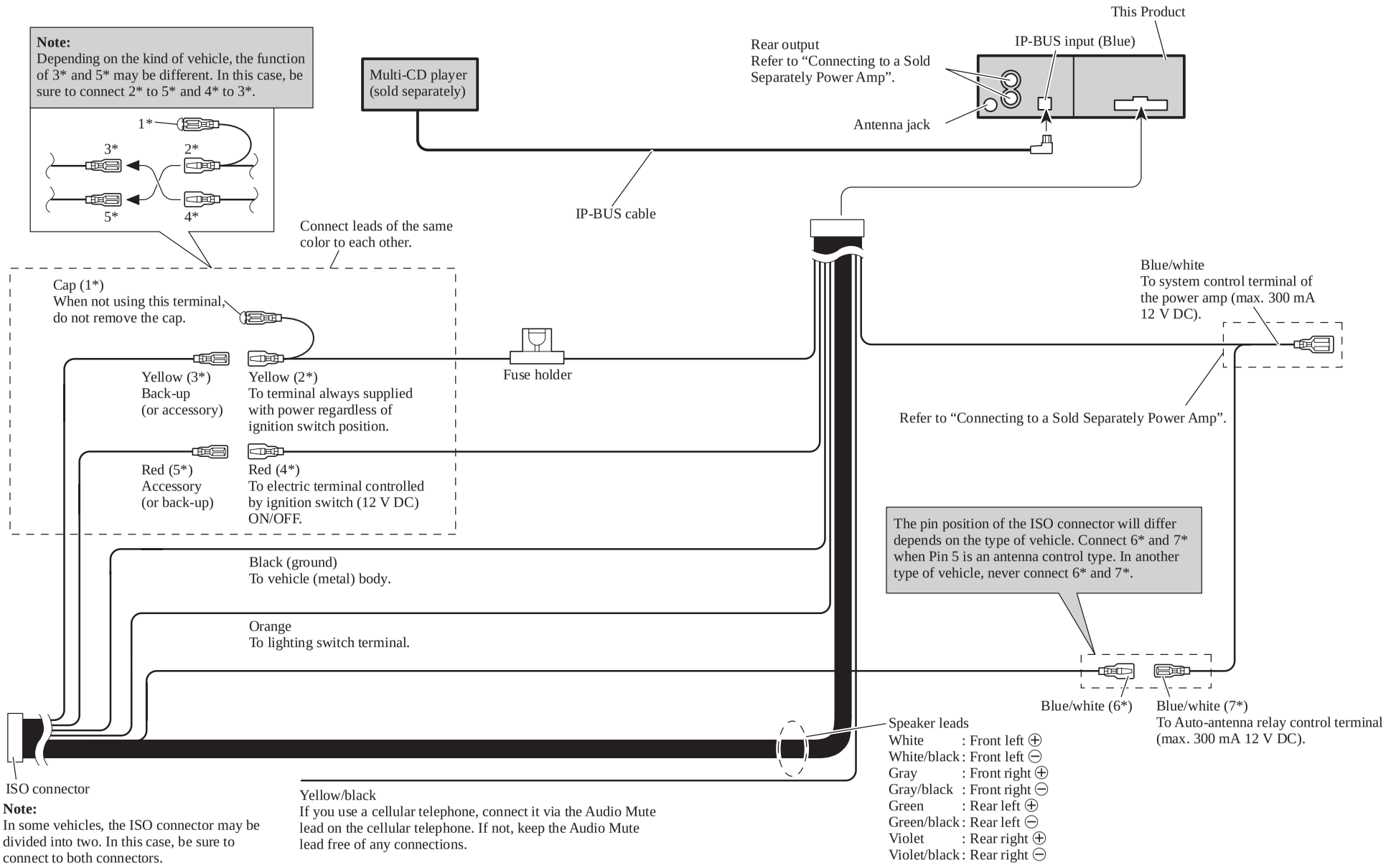
You can adjust the currently selected equalizer curve settings as desired. Adjusted equalizer curve settings are memorized in "CUSTOM".

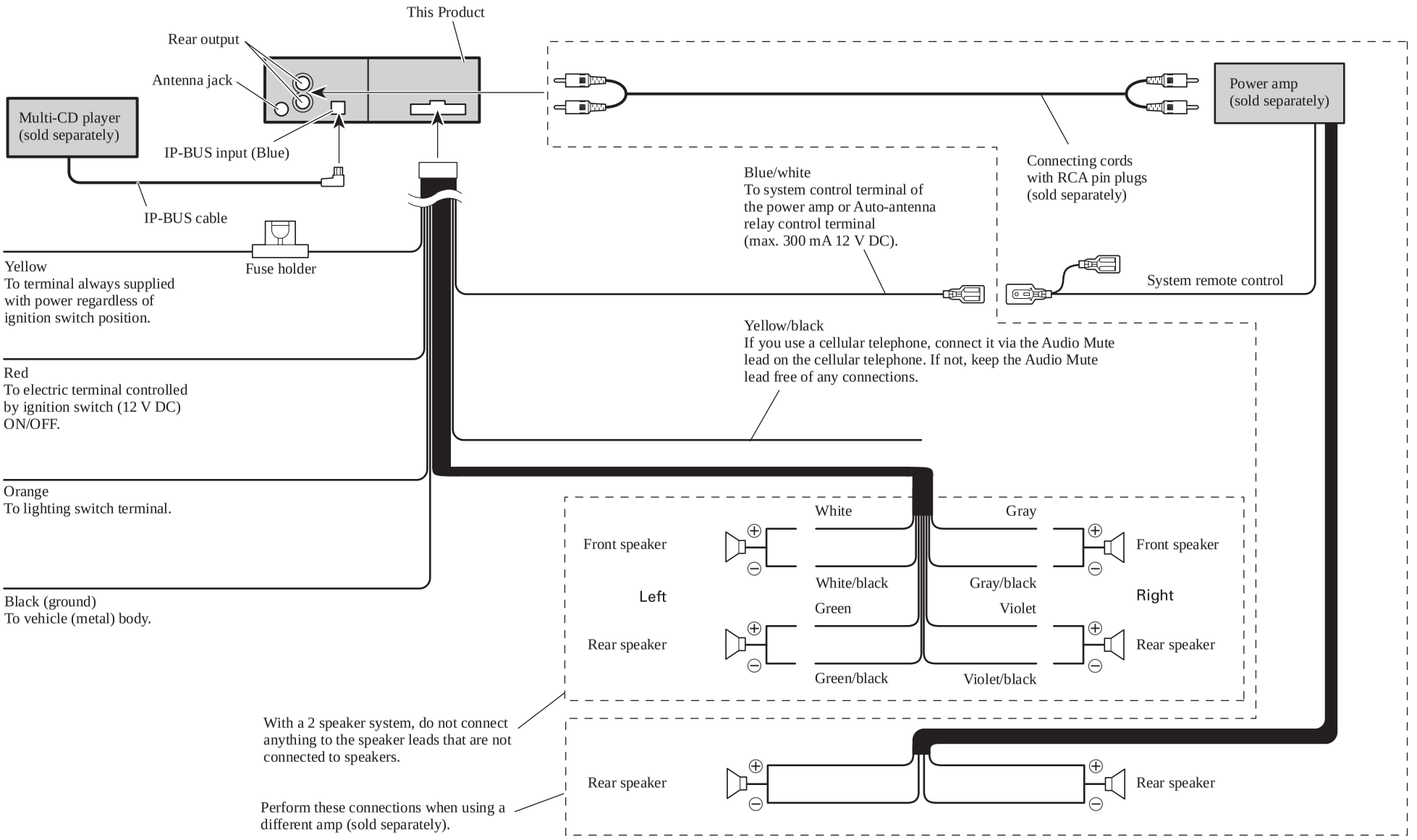
1. **Press the AUDIO button and select the Equalizer mode (EQ-LOW/MID/HIGH) in the Audio Menu.**
2. **Select the band you want to adjust with the ◄/► buttons.**
   EQ-LOW ↔ EQ-MID ↔ EQ-HIGH

3. **Boost or attenuate the selected band with the ▲/▼ buttons.**
   The display shows "+6" – "–6".

Note:
- If you make adjustments when a curve other than "CUSTOM" is selected, the newly adjusted curve will replace the previous adjusted curve. Then a new curve with "CUSTOM" appears on the display while selecting the equalizer curve.

● MEH-P5100R/EW


Note:
Depending on the kind of vehicle, the function of 3* and 5* may be different. In this case, be sure to connect 2* to 5* and 4* to 3*.
1*
2*
3*
4*
5*
Multi-CD player (sold separately)
This Product
IP-BUS input (Blue)
Rear output
Refer to "Connecting to a Sold Separately Power Amp".
Antenna jack
IP-BUS cable
Connect leads of the same color to each other.
Cap (1*)
When not using this terminal, do not remove the cap.
Fuse holder
Blue/white
To system control terminal of the power amp (max. 300 mA 12 V DC).
Refer to "Connecting to a Sold Separately Power Amp".
Yellow (3*)
Back-up
(or accessory)
Yellow (2*)
To terminal always supplied with power regardless of ignition switch position.
Red (5*)
Accessory
(or back-up)
Red (4*)
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
The pin position of the ISO connector will differ depends on the type of vehicle. Connect 6* and 7* when Pin 5 is an antenna control type. In another type of vehicle, never connect 6* and 7*.
Black (ground)
To vehicle (metal) body.
Orange
To lighting switch terminal.
Blue/white (6*)
Blue/white (7*)
To Auto-antenna relay control terminal (max. 300 mA 12 V DC).
Speaker leads
White : Front left ⊕
White/black : Front left ⊖
Gray : Front right ⊕
Gray/black : Front right ⊖
Green : Rear left ⊕
Green/black : Rear left ⊖
Violet : Rear right ⊕
Violet/black : Rear right ⊖
ISO connector
Note:
In some vehicles, the ISO connector may be divided into two. In this case, be sure to connect to both connectors.
Yellow/black
If you use a cellular telephone, connect it via the Audio Mute lead on the cellular telephone. If not, keep the Audio Mute lead free of any connections.


This Product
Rear output
Antenna jack
Multi-CD player (sold separately)
IP-BUS input (Blue)
IP-BUS cable
Fuse holder
Power amp (sold separately)
Connecting cords with RCA pin plugs (sold separately)
Blue/white
To system control terminal of the power amp or Auto-antenna relay control terminal (max. 300 mA 12 V DC).
System remote control
Yellow
To terminal always supplied with power regardless of ignition switch position.
Yellow/black
If you use a cellular telephone, connect it via the Audio Mute lead on the cellular telephone. If not, keep the Audio Mute lead free of any connections.
Red
To electric terminal controlled by ignition switch (12 V DC) ON/OFF.
Orange
To lighting switch terminal.
Black (ground)
To vehicle (metal) body.
White
Gray
Front speaker
Front speaker
White/black
Gray/black
Left
Right
Green
Violet
Rear speaker
Rear speaker
Green/black
Violet/black
With a 2 speaker system, do not connect anything to the speaker leads that are not connected to speakers.
Rear speaker
Rear speaker
Perform these connections when using a different amp (sold separately).

8.2 SPECIFICATIONS

● MEH-P5100R/EW

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Dimensions
(mounting size) ..... 178 (W) × 50 (H) × 150 (D) mm
(front face) ..... 188 (W) × 58 (H) × 19 (D) mm
Weight ..... 1.2 kg

Amplifier

Maximum power output ..... 45 W × 4
Continuous power output ..... 27 W × 4
(DIN45324, +B = 14.4 V)
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 2.2 V/1 kΩ
Equalizer (3-Band Parametric Equalizer)
(Low) ..... Frequency: 40/80/100/160 Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
(Mid) ..... Frequency: 200/500/1k/2k Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
(High) ..... Frequency: 3.15k/8k/10k/12.5k Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
Loudness contour
(Low) ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
(volume: –30 dB)
(Mid) ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
(volume: –30 dB)
(High) ..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)

MD player

System ..... Mini disc digital audio system
Usable discs ..... Mini disc
Signal format ..... Sampling frequency: 44.1 kHz
Number of quantization bits: 16; linear
Frequency characteristics ..... 20 – 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IEC-A network)
Dynamic range ..... 92 dB (1 kHz)
Number of channels ..... 2 (stereo)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity..... 11 dBf
(1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 16 dBf
(1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range ..... 531 – 1,602 kHz (9 kHz)
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

LW tuner

Frequency range ..... 153 – 281 kHz
Usable sensitivity ..... 30 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)

Note:
- US and foreign patents licensed from Dolby Laboratories Licensing Corporation.
- Specifications and the design are subject to possible modification without notice due to improvements.

● MEH-P5150/ES

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Dimensions
(DIN) (chassis) ..... 178 (W) × 50 (H) × 150 (D) mm
(nose) ..... 188 (W) × 58 (H) × 19 (D) mm
(D) (chassis) ..... 178 (W) × 50 (H) × 155 (D) mm
(nose) ..... 170 (W) × 48 (H) × 14 (D) mm
Weight ..... 1.2 kg

Amplifier

Continuous power output is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 45 W × 4
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout maximum output level/output impedance
..... 2.2 V/1 kΩ
Equalizer (3-Band Parametric Equalizer)
(Low) ..... Frequency: 40/80/100/160 Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
(Mid) ..... Frequency: 200/500/1k/2k Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
(High) ..... Frequency: 3.15k/8k/10k/12.5k Hz
Q Factor: 0.35/0.59/0.95/1.15
(+6 dB when boosted)
Level: ±12 dB
Loudness contour
(Low) ..... +3.5 dB (100 Hz), +3 dB (10 kHz)
(volume: –30 dB)
(Mid) ..... +10 dB (100 Hz), +6.5 dB (10 kHz)
(volume: –30 dB)
(High) ..... +11 dB (100 Hz), +11 dB (10 kHz)
(volume: –30 dB)

MD player

System ..... Mini disc digital audio system
Usable discs ..... Mini disc
Signal format ..... Sampling frequency: 44.1 kHz
Number of quantization bits: 16; linear
Frequency characteristics ..... 20 – 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz) (IEC-A network)
Dynamic range ..... 92 dB (1 kHz)
Number of channels ..... 2 (stereo)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity ..... 10 dBf
(0.9 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity ..... 15 dBf
(1.5 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range ..... 531 – 1,602 kHz (9 kHz)
530 – 1,640 kHz (10 kHz)
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)
50 dB (±10 kHz)

Note:

- US and foreign patents licensed from Dolby Laboratories Licensing Corporation.
- Specifications and the design are subject to possible modification without notice due to improvements.